Stormwater Pollution Prevention Plan Alaskan Copper Facility Seattle, Washington

March 24, 2011 (See Section 1.0 for record of revisions to this SWPPP)

Prepared for

Alaskan Copper & Brass Company Alaskan Copper Works Seattle, Washington



STORMWATER POLLUTION PREVENTION PLAN CERTIFICATION FORM ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

The Permittee shall use this form to sign and certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate, and in compliance with Conditions S3 and S8 of the Industrial Stormwater General Permit.

- A SWPPP certification form needs to be completed and attached to all SWPPPs.
- Each time a Level 1, 2, or 3 Corrective Action is required, this form needs to be re-signed and re-certified by the Permittee, and attached to the SWPPP.

Is this SWPPP certification in response to a Level 1, 2 or 3 Corrective Action? Yes No If Yes:
 Type of Corrective Action?: Level 1 Level 2 Level 3 Date SWPPP update/revision completed: 3/24/2011 .
Date SWITT update/revision completed
"I certify under penalty of law that this SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information to determine compliance with the Industrial Stormwater General Permit. Based on my inquiry of the person or persons who are responsible for stormwater management at my facility, this SWPPP is, to the best of my knowledge and belief, true, accurate, and complete, and in full compliance with Permit Conditions S3 and S8, including the correct Best Management Practices from the applicable Stormwater Management Manual. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Title Operator's Printed Name * Operator's Signature * Date
Fodoral regulations require this do surrent to be signed as follows:

Federal regulations require this document to be signed as follows:

For a corporation, by a principal executive officer of at least the level of vice president; for a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or for a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

This document shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if: 1) The authorization is made in writing by a person described above and submitted to Ecology. 2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

Changes to authorization: If an authorization under number 2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of number 2 above shall be submitted to Ecology prior to, or together with, any reports, information, or applications to be signed by an authorized representative.

TABLE OF CONTENTS

			Page
1.0	INT	RODUCTION	1-1
2.0	FAC	CILITY ASSESSMENT (S3.B.2)	2-1
	2.1	FACILITY DESCRIPTION (\$3.B.2.a)	2-1
		2.1.1 Potential Sources of Stormwater Pollution (S3.B.2.b)	2-1
	2.2	STORMWATER DRAINAGE (S3.B.1.c.)	2-2
3.0		T MANAGEMENT PRACTICES (S3.B.4.)	3-1
	3.1	OPERATIONAL SOURCE CONTROL BEST MANAGEMENT PRACTICES (\$3.B.	
		3.1.1 Pollution Prevention Team (S3.B.3)	3-2
		3.1.2 Good Housekeeping (S3.B.4.b.i.2)	3-2
		3.1.3 Preventive Maintenance (S3.B.4.b.i.3)	3-4
		3.1.4 Spill Prevention and Cleanup (S3.B.4.b.i.4)	3-5
		3.1.5 Employee Training (S3.B.4.b.i.5)	3-7
	2.2	3.1.6 Inspections and Recordkeeping (S3.B.4.b.i.6)	3-7
	3.2	STRUCTURAL SOURCE CONTROL AND OPERATIONAL BEST MANAGEMEN	
		PRACTICES BY INDUSTRIAL ACTIVITY (\$3.B.4.b.ii)	3-9
		3.2.1 BMPs for Fueling at Dedicated Stations	3-9
		3.2.1.1 Operational BMPs for Fueling at Dedicated Stations	3-9
		3.2.1.2 Structural BMPs for Fueling at Dedicated Stations	3-10
		3.2.2 BMPs for Loading and Unloading Areas for Liquid or Solid Material 3.2.2.1 Operational BMPs	3-11 3-12
		3.2.2.2 Structural BMPs	3-12
		3.2.3 BMPs for Maintenance of Stormwater Drainage and Treatment Systems	3-12
		3.2.3.1 Operational and Structural BMPs	3-13
		3.2.4 BMPs for Roof/Building Drains at Manufacturing Buildings	3-13
		3.2.4.1 Operational BMPs	3-14
		3.2.5 BMPs for Storage of Liquids or Dangerous Waste Containers (Outside)	3-14
		3.2.5.1 Operational BMPs	3-15
		3.2.5.2 Structural BMPs	3-16
		3.2.6 BMPs for Storage of Liquids in Permanent Aboveground Tanks	3-16
		3.2.6.1 Operational BMPs	3-17
		3.2.6.2 Structural BMPs	3-17
		3.2.6.3 Treatment BMPs	3-17
		3.2.7 BMPs for Urban Streets	3-18
		3.2.7.1 Recommended BMPs for Urban Streets	3-18
	3.3	TREATMENT BEST MANAGEMENT PRACTICES (\$3.B.4.b.iii)	3-19
	3.4	STORMWATER PEAK RUNOFF AND VOLUME CONTROL BEST MANAGEME	
		PRACTICES (S3.B.4.b.iv)	3-19
	3.5	EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES	
	· · · · ·	(S3.B.4.b.v)	3-19
	ome:	DAMINATED MONITORING BY AN (02 D.C.)	
4.0		RMWATER MONITORING PLAN (\$3.B.5)	4-1
	4.1	MONITORING LOCATIONS, REQUIREMENTS, AND METHODS	4-1
		4.1.1 Methods for Visual Inspections	4-2
	4.2	4.1.2 Methods for Stormwater Sampling	4-2
	4.2	RECORDKEEPING	4-4

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4.3	SUBMITTAL OF SAMPLES TO THE LABORATORY	4-4
4.4	EVALUATION OF SAMPLING RESULTS	4-5
4.5	SUBMITTING THE SAMPLING RESULTS TO ECOLOGY	4-7
5.0 USE	OF THIS REPORT	5-1
	FIGURES	
<u>Figure</u>	<u>Title</u>	
1 2	Vicinity Map Site Map	
	TABLES	
<u>Table</u>	<u>Title</u>	
1	Stormwater Best Management Practices Potentially Applicable to Alaskan Copper	
	APPENDICES	
<u>Appendix</u>	<u>Title</u>	
A B C	Industrial Stormwater General Permit Worksheets 1-4 (Industrial Activities, Pollutant Sources, Spill Log, Employee Training) Forms and Recordkeeping (DMR, Monthly Inspection, Quarterly Sampling)	

Summary of Submittals, Onsite Documentation and Required Activities

SUMMARY OF PERMIT REPORTS & SUBMITTALS

Permit Section	Submittal	Frequency	Due Date(s)
S1.F	Conditional "No Exposure" Certification Form	As necessary	As necessary
S2.B	Application for Permit Coverage	As necessary	As necessary
S2.B.	Request Modification of Permit Coverage	As necessary	As necessary
S2.D	Request Transfer of Coverage	As necessary	As necessary
S9.A	Discharge Monitoring Reports (DMRs)	I/quarter	within 45 days after the end of each quarter
S9.B	Annual Report	I/year	May 15 th (except 2010)
S9.C.	SWPPP, if requested by <i>Ecology</i>	Per <i>Ecology</i> request	Within 14 days of request
S9.D	Noncompliance Notification	As necessary	Within 30 days of noncompliance event

SUMMARY OF REQUIRED ONSITE DOCUMENTATION

Permit Condition(s)	Document Title		
S3.A.4.a	Stormwater Pollution Prevention Plan (SWPPP)		
S9.B	Copies of Annual Reports	***************************************	
S9.C.1.a	Copy of Permit		
S9.C.1.b	Copy of Coverage Letter		
S9.C.1.c	Original Sampling Records (Field Notes and Laboratory Reports)		
S7.C & S9.C.1.d	Site Inspection Reports		
S9.C.1.j	Copies of Discharge Monitoring Reports (DMRs)		

SUMMARY OF SELECTED REQUIRED ACTIVITIES

Permit Condition	Activity Description	Frequency
S7	Monthly Inspections	Qualified personnel conduct and document visual inspections
		of the site monthly on the monthly inspection form.
S3.B.4.b.i.5	Employee Training	Conducted at least once per year
S7	BMP Inspections	At least once per month during monthly inspections
S3.B.4.b.i.2.a	Vacuum Sweeping	Once per month or as needed but not less than once per quarter
S3.B.4.b.i.3.a	Catch Basins Cleaning	As needed when depths of debris reaches 60% of the sump depth and when the depth of debris reaches 6 inches below outlet pipe.
S3.B.4.b.i.2.d	Cover Solid Waste Storage Containers	At all times when not in use.
S7	Stormwater Observations	At least once per quarter during qualifying storm events and also during monthly inspections if conducted during a storm event
S4	Sampling	Sampling at applicable stormwater discharge locations shall be conducted at least once per quarter: 1st Quarter = January, February, and March 2nd Quarter = April, May, and June 3rd Quarter = July, August, and September 4th Quarter = October, November, and December
S9.A	DMR Submittal	Submit to Ecology within 45 days of the end of each quarter
S8	Corrective Actions	Implement: -Level One Corrective Actions (CAs) within 45 days of the end of each quarter; -and Level Two and Three CAs by Sept 30 of the following year.
S9.B	Submit Annual Report	Submit to Ecology by May 15 of each year starting in 2011.

1.0 INTRODUCTION

This document presents a Stormwater Pollution Prevention Plan (SWPPP) for the Alaskan Copper facility (the "Facility"), located in Seattle, Washington, in accordance with the requirements of Permit #WAR000139 under the State of Washington's Industrial Stormwater General Permit (ISGP) issued on October 21, 2009 and effective on January 1, 2010 (Permit). A copy of the ISGP is provided in Appendix A. This SWPPP is a continuation of Permit #SO3-000139D based on the ISGP issued on August 21, 2002 and modified on December 1, 2004, and has been updated to comply with the requirements of the October 21, 2009 ISGP.

This SWPPP is, as defined in the Permit, a "documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater." In accordance with the Permit, this SWPPP contains five required SWPPP components [facility map, facility assessment, Best Management Practices (BMPs), Spill Prevention and Emergency Cleanup Plan (SPECP), and a sampling plan] and is divided into the following three main sections:

- Facility Assessment (Section 2.0): Presents a general facility description, facility map, inventory of industrial activities, and inventory of materials.
- **Best Management Practices (Section 3.0)**: Describes BMPs in use or planned for use at the Facility including a listing of the Alaskan Copper pollution prevention team.
- Stormwater Monitoring Plan (Section 4.0): Presents a plan for conducting quarterly stormwater sampling and monthly site inspections at the Facility.

Where applicable, the Permit Condition reference is included in parentheses throughout the text of this SWPPP for major headings and select subheadings. This document will be updated, as needed, to reflect changes to the Alaskan Copper stormwater management program, including changes in BMPs and the addition of new industrial activities or potential pollutant sources, or in response to Permit modifications. Each update will be accompanied by a newly signed SWPPP Certification Form (first page of SWPPP). A copy of this SWPPP will be maintained at the Alaskan Copper administrative offices. A list of the major revisions to previous versions of the SWPPP is presented below.

Date	Revision
November 2005	Add ROMIC Environmental Technologies, Inc. as an authorized agent
November 2007	Add Clean Harbors Environmental Services, Inc. as an authorized agent
May 2009	Update SWPPP; add Clean Harbors Environmental Services Personnel to SWPPP
July 2009	SWPPP revisions and updates
January 2010	Update SWPPP to comply with 2010 Industrial Stormwater General Permit
May 2010	Revise SWPPP to include additional operational source control and treatment BMPs
August 2010	Revise SWPPP to include additional operational source control and structural BMPs
November 2010	Revise SWPPP to include additional operational source control BMPs.
March 24, 2011	Revise SWPPP to include additional operational source control BMPs.

2.0 FACILITY ASSESSMENT (S3.B.2)

As stated in the Permit, the facility assessment includes: "a description of the facility; an inventory of facility activities and equipment that contribute to or have the potential to contribute any pollutants to stormwater; and, an inventory of materials that contribute to or have the potential to contribute pollutants to stormwater."

2.1 FACILITY DESCRIPTION (S3.B.2.a)

The Alaskan Copper Seattle Facility consists of two integrated business entities, Alaskan Copper Works, which is located at 3200 6th Avenue South and Alaskan Copper & Brass Company, which is located at 3223 6th Avenue South. Figure 1 shows the general vicinity of the Facility. The Facility has regular business hours of 7:00 a.m. to 4:00 p.m. Monday through Friday. Alaskan Copper performs dimensional steel and stainless steel pipe fabrication at the Facility. The Facility covers approximately 16.7 acres and roughly 96 percent of that area consists of buildings and paved areas. The layout of the Facility, including major buildings (628, 2958, 3200, 3223, 3300, 3301, 3317, and 3405), the Facility's stormwater discharge locations (and associated sampling identification numbers), and the storm drain system piping at the Facility are described in Section 2.1.1 below and also shown on Figure 2.

According to the Permit, facilities with a standard industrial classification (SIC) category of 34xx for fabricated metal products (Alaskan Copper Works has an SIC code of 3443, fabricated plate work – boiler shops) conduct operations and activities that are considered industrial activities requiring a stormwater permit. Industrial activities currently performed at this Facility include:

Steel pipe forming, bending, and cutting Pipe welding and grinding Outdoor storage and transfer of materials Vehicle fueling Cutting operations Plasma table operations Vehicle maintenance

Some of these activities are limited to inside buildings and are not conducted within the stormwater drainage area. Additional details of these activities and potentially associated stormwater pollutants are provided in Worksheets 1 and 2 found in Appendix B.

2.1.1 POTENTIAL SOURCES OF STORMWATER POLLUTION (S3.B.2.b)

The following items that result from Facility operations, or that are stored at the Facility, are potential sources of stormwater pollution:

Cutting fluid Lubrication grease Air emissions from processing Drummed solids from the cyclone

Cooling fluid
Raw or final metal products
Facility buildings (metals from roofs or walls)

Additional details of these potential pollutants and how they could potentially become entrained in stormwater are provided in Worksheets 1 and 2 found in Appendix B.

In accordance with Permit condition S3.b.2.c.iii, this SWPPP also addresses potential stormwater pollutants from past activities, by noting that no known potential sources of pollutants from past activities, materials, and spills were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to stormwater. There have been no known or recorded significant spills or leaks of toxic or hazardous pollutants at the Facility that migrated off-property within the last 5 years. Minor spills may have occurred inside and outside of the Facility structures, but were contained and promptly cleaned up.

To prevent potential pollutants associated with these potential sources from reaching stormwater, the Facility employs the BMPs described in Section 3.0 of this SWPPP.

2.2 STORMWATER DRAINAGE (S3.B.1.c.)

Based on storm drain utility maps provided by the City of Seattle (City), there are some portions of the Facility that drain to storm drain pipes (with ultimate discharge to a surface water body) and other portions of the Facility that drain to the combined sanitary sewer system (with ultimate discharge to a King County wastewater treatment plant). The areas where Facility stormwater runoff drains to the storm sewer are the area between Buildings 3317 and 3405 (including portions of the roofs of buildings 3317 and 3405), the area south of Building 3300 (including a portion of the roof of building 3300), the area between Buildings 3223 and 3301 including those building roofs, a portion of the paved area southwest of Building 2958, the eastern portion of Building 3200, and the Building 3200 roof and the parking area west of the building. These areas that drain to the storm sewer are shown on Figure 2. Stormwater from the remainder of the Facility drains to a combined sanitary sewer system, and the combined sewer system is also shown on Figure 2.

According to the City, stormwater exiting the Facility through the storm drain system generally flows from west to east in the City storm drain pipe south of Building 3300 (although Alaskan Copper staff recollect this storm drain line having been recently terminated off-property to allow construction of the commuter rail facility to the east). This City storm drain then turns south at 8th Avenue South, then southwest along Diagonal Avenue South, and continues southwest until just south of Idaho Street where it turns west and exits into the Duwamish River at the Diagonal Storm Drain Outfall.

The one exception to this general stormwater drainage and receiving water is the small portion of the Alaskan Copper Facility southwest of Building 2958 at the intersection of 6th Avenue South and the Hanford Street right-of-way (Alaskan Copper has authorization from the City to use this right-of-way for material storage). This small area drains to a City maintained catch basin and storm drain flow from there

is to the north with ultimate discharge to the East Waterway. This small Facility drainage area and City
catch basin is not an active stormwater sampling location because the majority of the drainage to this
location is from roadway runoff rather than from Alaskan Copper property and activities.
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3.0 BEST MANAGEMENT PRACTICES (S3.B.4.)

The Permit identifies the following five categories of BMPs that may be needed at a facility to control stormwater discharge:

- Operational Source Control BMPs (Section 3.1; S3.B.4.b.i.): These BMPs are required at all facilities covered under the Permit and are managerial-type measures that are implemented to prevent or reduce pollution of stormwater; they specifically exclude construction of pollution control measures. Examples include general housekeeping activities, formation of a pollution prevention team, and employee training.
- Structural Source Control BMPs (Section 3.2; S3.B.4.b.ii.): These BMPs require construction or use of a physical structure to control pollution of stormwater. Examples include construction of a roof over a drum storage area or a containment berm around an aboveground storage tank.
- Treatment BMPs (Section 3.3; S3.B.4.b.iii.): These BMPs consist of actual stormwater treatment systems designed to treat polluted stormwater. Examples include catch basin insert filters, enhanced sedimentation vault devices, and use of activated carbon to remove petroleum hydrocarbons.
- Stormwater Peak Runoff Rate and Volume Control BMPs (Section 3.4; S3.B.4.b.iv): These BMPs provide stormwater detention or retention to reduce the peak rate of stormwater runoff, where necessary to minimize streambank erosion within receiving waters.
- Erosion and Sediment Control BMPs (Section 3.5; S3.B.4.b.v): These BMPs are designed to limit soil erosion and to control eroded soil, and are most commonly used during site construction. Examples include seeding and covering exposed soil, and the use of silt fencing.

The following section provides a general description of the BMPs (in italics) that are required by the Permit and then describes in greater detail the specific application of these BMPs at the Facility. The BMPs contained in this SWPPP are consistent with the BMPs contained in the Washington State Department of Ecology (Ecology) 2005 Stormwater Management Manual for Western Washington (2005 Manual). Therefore, demonstration of BMP equivalency is not provided in this SWPPP. In addition, the 2005 Manual contains BMPs that provide all known, available, and reasonable methods of prevention, control, and treatment (AKART) of stormwater pollution to ensure that discharges do not cause or contribute to a violation of water quality standards, and comply with federal technology-based treatment requirements under 40 CFR 125.3.

The Permit lists specific operational and structural source control BMPs that must be implemented at all permitted facilities and requires permittees to implement all operational source control BMPs, structural source control BMPs, and treatment BMPs listed as "applicable" in Ecology's 2005 Manual. For Alaskan Copper, these "applicable" BMPs are found in Volume IV of the 2005 Manual, available online at: http://www.ecy.wa.gov/pubs/9914.pdf. This list, along with each BMP's potential

applicability to the Facility, is provided in Table 1. Additional descriptions of the applicable BMPs for the Facility are provided in the following sections.

3.1 OPERATIONAL SOURCE CONTROL BEST MANAGEMENT PRACTICES (S3.B.4.b.i.)

This section describes operational source control BMPs that are required by the Permit for all industrial activities and operations covered under the Permit. Recommended BMPs are also listed where applicable. Additional operational BMPs are listed in Section 3.2 for specific industrial activities and operations, where required by the Permit.

3.1.1 POLLUTION PREVENTION TEAM (S3.B.3)

Unless noted otherwise, the Facility adheres to the following pollution prevention team BMPs, applicable under the 2005 Manual.

- The SWPPP shall identify specific individuals by name or by title within the organization (pollution prevention team) whose responsibilities include: SWPPP development, implementation, maintenance, and modification.
 - Pollution Prevention Team: The Pollution Prevention Team for the Facility shall consist of the Responsible Official and the SWPPP Coordinator. The Responsible Official is the person with overall responsibility for Permit compliance, has delegated authority to sign discharge monitoring reports (DMRs) and inspection forms, and is to ensure that adequate resources are made available to the SWPPP Coordinator in order to implement the BMPs and monitoring requirements in the SWPPP. The SWPPP Coordinator has overall responsibility for developing, implementing, maintaining, and revising this SWPPP. Other Facility employees will assist the Pollution Prevention Team as necessary. Contact information for the Facility Responsible Official and SWPPP Coordinator is provided below.

PP Team Role	Name	Office Phone / Cell Phone	_
Responsible Official	Jim Brown	(206) 623-5800 / (b) (6)	-
SWPPP Coordinator	Jerry Thompson	(206) 382-8379 /	

Landau Associates (425-778-0907), other environmental consulting firms, or other designated contracted personnel, may assist the Facility in SWPPP preparation, employee training, stormwater sampling, and BMP assessment services.

3.1.2 GOOD HOUSEKEEPING (S3.B.4.b.i.2)

The following good housekeeping BMPs are considered applicable in the 2005 Manual and are adhered to at the Facility, unless noted otherwise.

 Promptly contain and clean up solid and liquid pollutant leaks and spills, including oils, solvents, fuels, and dust, from manufacturing operations on any exposed soil, vegetation, or paved area.

- Spills: See Section 3.1.4 on spill prevention and cleanup.
- Clean oil, debris, sludge, etc., from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater. Refer to the Washington State Department of Ecology's (Ecology) regional offices to assist in determining if a waste must be handled as hazardous waste.
 - Catch Basins: See Section 3.2.3 on Maintenance of Stormwater Drainage and Treatment Systems.
- Promptly repair or replace substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas, which are subjected to pollutant material leaks or spills.
- Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., that can contaminate stormwater.
- Sweep paved material handling and storage areas regularly, as needed, for the collection and disposal of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction.

In addition to these BMPs from the 2005 Manual, the Permit also specifically requires the following Good Housekeeping BMPs:

- Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated pollutants a minimum of once per quarter.
 - Vacuum Sweeping: Facility personnel or outside contractors inspect, clean, and maintain areas of the Facility that accumulate dust and other debris. Paved areas are vacuum-swept monthly. Sweeping the dirt and associated pollutants from paved areas of the Facility can be one of the most effective stormwater pollutant source control measures, so increasing the frequency of sweeping will be considered any time that stormwater benchmarks are found to have been exceeded.
- Identify and control all onsite sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation.
 - Control of Onsite Dust: To reduce the potential for tracking/runoff from onsite dust into storm drains between buildings 3317 and 3405, truck traffic is being eliminated from the access road between the two buildings.
- Inspect and maintain bag houses monthly to prevent the escape of dust from the system. Immediately remove any accumulated dust at the base of exterior bag houses.
- Keep all dumpsters under cover or fit with a lid that must remain closed when not in use.

The following good housekeeping BMP from the 2005 Manual is not required but recommended:

- Recycle materials, such as oils, solvents, and wood waste, to the maximum extent possible.
 - Recycling: Oil is recycled at the Facility. Waste oil for recycling is stored in an approximately 500-gallon drum on the northern side of Building 628, outside of any stormwater drainage area.

3.1.3 PREVENTIVE MAINTENANCE (\$3.B.4.b.i.3)

The following preventive maintenance BMPs are considered applicable in the 2005 Manual and are adhered to at the Facility, unless noted otherwise.

- Prevent discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground.
- Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.
- Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct rinse water and contaminated stormwater from such an area to a sanitary sewer where allowed by the local sewer authority, or to other approved treatment.
 - Washing: Parts cleaning (if needed) is conducted indoors. However, if Facility personnel wash vehicles or equipment outdoors in an area that discharges to the stormwater system, they ensure that washing is conducted only where the water will be contained within a catch basin with its outlet drain plugged, and where the washwater will be pumped out to the sanitary sewer system or hauled off site for appropriate treatment. Offsite drainage of wash-water or rinse-water to surface water is not allowed.
- Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.
- Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
- Use drip pans to collect leaks and spills from industrial/commercial equipment such as airplanes, trucks, and other vehicles, which are stored outside.
- At industrial and commercial facilities, drain oil and fuel filters before disposal. Discard empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers, and in compliance with the Uniform Fire Code.
- For the storage of liquids use containers, such as steel and plastic drums, that are rigid and durable, corrosion-resistant to the weather and fluid content, non-absorbent, watertight, rodent-proof, and equipped with a close fitting cover.
- For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums, and comparable containers, which are durable, corrosion-resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a lean-to or equivalent structure.
- Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.

In addition to these BMPs from the 2005 Manual, the Permit also specifically requires the following Preventive Maintenance BMPs:

• Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe.

- Catch Basins: See BMPs for the Maintenance of Storm Drain Systems (Section 3.2.3).
- Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired.
 - Monthly Inspections: Qualified personnel conduct and document visual inspections of the site monthly on the monthly inspection form. A blank monthly inspection form, as well as other blank forms, is provided at the beginning of Appendix C of this SWPPP. Monthly inspection criteria are the same criteria used during stormwater monitoring as described in Section 4.1.1, except that monthly inspections may occur during either storm or non-storm events, in which case monitoring of floating debris, discoloration, etc., associated with stormwater would not apply. However, monthly inspections conducted during a non-storm event may allow the inspector to observe possible illicit discharges.
- Immediately clean up spills and leaks (e.g., using absorbents, vacuuming, etc.) to prevent the
 discharge of pollutants.
 - Spills: See Spill Prevention and Emergency Cleanup (Section 3.1.4).

The following preventive maintenance BMP from the 2005 Manual is not required but recommended.

 Where feasible, store potential stormwater pollutant materials inside a building or under a cover and/or containment.

3.1.4 SPILL PREVENTION AND CLEANUP (S3.B.4.b.i.4)

The following spill prevention and cleanup BMPs are considered applicable in the 2005 Manual and are adhered to at the Facility and specifically within the South Yard, unless noted otherwise.

- Immediately upon discovery, stop, contain, and clean up all spills.
 - Spill Prevention: See Spill Prevention and Emergency Cleanup BMPs below.
- If pollutant materials are stored on site, have spill containment and cleanup kits readily accessible. Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill.
 - Onsite Spill Response Supplies: See "Spill Kits" below.
 - Additional Spill Cleanup Assistance: If a spill cannot be contained on site with available resources, then the Facility will contact a spill response contractor. One such spill response contractor is NRC Environmental Services (1-800-337-7455).
- If the spill has reached or may reach a storm sewer, groundwater, or surface water, notify Ecology immediately. Notification must comply with federal spill reporting requirements. To report a spill or to determine if a spill is a substance of a reportable quantity, call the Ecology regional office and ask for an oil spill operations or a hazardous waste specialist: Northwest Region (425) 649-7000. Ecology requires that oil spills be reported to the National Response Center (1-800-424-8802) and Washington State (1-800-258-5990 or 1-800-OILS-911). Report all non-oil spills to 1-425-649-7000. If the spill has reached or may reach a sanitary or a storm sewer, notify Ecology and the local sewer authority immediately. The local sewer authority is Seattle Public Utilities (206-684-3000).

Spill Reporting Telephone Numbers:

Ecology Northwest Region (all spills and information) (425) 649-7000

National Response Center (oil spills) 1-800-424-8802

Washington State (oil spills) 1-800-258-5990 or 1-800-OILS-911

Seattle Public Utilities (spills to sanitary sewer) (206) 684-3000

• Do not flush absorbent materials or other spill cleanup materials to a storm drain. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.

In addition to these BMPs from the 2005 Manual, the Permit also specifically requires the SWPPP to include a Spill Prevention and Emergency Cleanup Plan (SPECP). The SPECP is presented below and consists of the following required BMPs to prevent spills that can pollute stormwater.

- Store all chemical liquids, fluids, and petroleum products on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater.
 - Spill Containment: The 300-gallon diesel tank located between Buildings 3405 and 3317 is a double-walled steel tank to provide secondary containment. A short concrete block wall surrounds the tank to provide physical protection from forklift or other impacts.
- Prevent precipitation from accumulating in containment areas with a roof or equivalent structure or include a plan on how it will manage and dispose of accumulated water if a containment area cover is not practical.
- Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. At a minimum, spill kits shall include: i) Oil absorbents capable of absorbing 15 gallons of fuel. ii) A storm drain plug or cover kit. iii) A non-water containment boom, a minimum of 10 feet in length with a 12-gallon absorbent capacity. iv) A non-metallic shovel. v) Two five-gallon buckets with lids.
 - Spill Kits: Oil absorptive materials and spill response equipment are located near the 300-gallon diesel storage tank. Spill kits contain the minimum components listed above and are inspected monthly.
- Do not lock shut-off fueling nozzles in the open position. Do not "topoff" tanks being refueled. Block, plug, or cover storm drains that receive runoff from areas where fueling, during fueling.
- Use drip pans or equivalent containment measures during all petroleum transfer operations.
- Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas).
- Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible. Drain fluids from equipment and vehicles prior to onsite storage or disposal.

- Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved.
 - Spill Log: See spill log form, Worksheet 3, in Appendix B.

3.1.5 EMPLOYEE TRAINING (S3.B.4.b.i.5)

The following employee training BMP is considered applicable in the 2005 Manual and is adhered to at the Facility, unless noted otherwise.

- Train all employees that work in pollutant source areas in identifying pollutant sources to stormwater and in understanding pollutant control measures, spill response procedures, and environmentally acceptable material handling practices, particularly those related to vehicle/equipment liquids such as fuels, and vehicle/equipment cleaning. Use Ecology's "Stormwater Pollution Prevention Planning for Industrial Facilities" (WQ-R-93-015, 9/93) as a training reference.
 - Employee Training: Alaskan Copper provides in-house training at least once per year to personnel handling stormwater issues. Training includes a review of good housekeeping BMPs, spill response procedures, and material management practices. The training covers these and other contents of this SWPPP and how employees make a difference in stormwater pollution prevention. Alaskan Copper maintains a log documenting training dates and attendees. The training log in Appendix B (Worksheet 4) will be maintained and updated. Training will emphasize the use of environmentally acceptable materials and coatings for any equipment to be used or stored outdoors in areas where stormwater runoff enters the storm sewer rather than the sanitary sewer. The selection of appropriate materials includes paints, fencing, storage racks, roofing, and other equipment, so that use of materials containing zinc or copper will be reduced and eliminated to the extent practical. Acceptable materials would include epoxy or other non-metal paints for outdoor structures and non-galvanized storage racks or other outdoor structures. Also, as outdoor materials age and need to be replaced (such as facility roofing where apparent copper and zinc sources have been identified) to replace that material with products that will not be a source of copper or zinc to stormwater.

3.1.6 Inspections and Recordkeeping (S3.B.4.b.i.6)

The following inspection and recordkeeping BMPs are considered applicable in the 2005 Manual and are adhered to at the South Yard, unless noted otherwise.

- Verify that the descriptions of the pollutant sources identified in the stormwater pollution control program are accurate.
 - Pollutant Source Inspections: As an active Facility, near-daily observations will be
 made by the pollution prevention team regarding the status of potential pollutant sources
 at the Facility. This SWPPP will be updated if new potential sources are identified and if
 existing potential sources are eliminated.
- Verify that the stormwater pollutant controls (BMPs) being implemented are adequate.

- BMP Inspections: This verification will be made by comparing stormwater monitoring results to benchmark values (see Section 4.4) and through near-daily observations of Facility BMPs by the pollution prevention team and other Facility personnel. In addition, BMPs will be visually inspected monthly. The BMP visual inspections will be documented on the monitoring forms provided in Appendix C.
- Update the site map to reflect current conditions.
 - The Site Map (Figure 2) will be updated as appropriate to show changes to the Facility that may impact stormwater discharges.
- Include observations of the presence of floating materials, suspended solids, oil and grease, discoloration, turbidity, and odor in the stormwater discharges; in outside vehicle maintenance/repair areas; and liquid handling and storage areas. In areas where acid or alkaline materials are handled or stored, use a simple litmus or pH paper to identify those types of stormwater contaminants where needed. See procedures presented in Section 4.0 for conducting this inspection.
 - **Stormwater Observations**: These observations will be made a part of the monthly visual monitoring as described in Section 4.1.1.
- Determine whether there is/are unpermitted non-stormwater discharges to storm drains or receiving waters, such as process wastewater and vehicle/equipment washwater, and either eliminate or obtain a permit for such a discharge.
 - Unpermitted Non-stormwater Discharges: This determination will be made as part of the monthly inspections described in Section 4. Monthly inspection forms will be maintained in Appendix C. Blank forms are also provided at the beginning of Appendix C. If Alaskan Copper identifies an unpermitted discharge, it will eliminate or obtain a permit for the discharge.

Recordkeeping BMPs require that the following reports be retained for <u>five</u> years:

- Visual inspection reports (as described in Section 4.1.1), which should include: scope of the inspection, the personnel conducting the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWPPP (performance of the BMPs, etc.), and actions taken to correct BMP inadequacies.
 - Recordkeeping: Forms required as part of this SWPPP, including quarterly stormwater sampling forms and monthly inspection forms, will be maintained in Appendix C. Blank forms are also provided at the beginning of Appendix C.
- Reports on spills of oil or hazardous substances in greater than reportable quantities (CFR Title 40 Parts 302.4 and 117), including the following: oil, gasoline, or diesel fuel that causes a violation of the State of Washington's Water Quality Standards, a film or sheen upon or discoloration of the waters of the state or adjoining shorelines, or a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.
 - Spill Event Recordkeeping: Alaskan Copper will record any spill event on Worksheet 3
 (Appendix B) and maintain that record for at least 5 years.

Additional records that must be kept by the pollution prevention team include the following:

- Stormwater monitoring records (see Section 4.2).
- Employee training logs (see Section 3.1.5).

Required records will be maintained in Appendix C of this SWPPP.

3.2 STRUCTURAL SOURCE CONTROL AND OPERATIONAL BEST MANAGEMENT PRACTICES BY INDUSTRIAL ACTIVITY (S3.B.4.b.ii)

This section describes structural source control BMPs and operational BMPs considered applicable in the 2005 Manual and used by the Facility for specific industrial activities within the Facility (treatment BMPs are also included for specific industrial activities where applicable). In addition, the specific industrial activities listed below are also required by the Permit to include the following structural source control BMPs to minimize the exposure of manufacturing, processing, and material storage areas to precipitation and runoff:

- Use grading, berming, or curbing to prevent runoff of contaminated flows and divert runon away from manufacturing, processing, and material storage areas.
- Perform all cleaning operations indoors, under cover, or in bermed areas that prevent stormwater runoff and runon and capture any overspray. Drain washwater to a collection system for further treatment of storage.

3.2.1 BMPs for Fueling at Dedicated Stations

This section describes the applicable BMPs for fueling at dedicated stations.

General Description of Potential Pollutant Sources: A fueling station is a facility dedicated to the transfer of fuels from a stationary pumping station to mobile vehicles or equipment. It includes above or under-ground fuel storage facilities. In addition to general service gas stations, fueling may also occur at 24-hour convenience stores, construction sites, warehouses, car washes, manufacturing establishments, port facilities, and businesses with fleet vehicles. Typically, stormwater contamination at fueling stations is caused by leaks/spills of fuels, lube oils, radiator coolants, and vehicle washwater.

 Applicability at Facility: Alaskan Copper maintains a 300-gallon diesel tank between Buildings 3405 and 3317.

3.2.1.1 Operational BMPs for Fueling at Dedicated Stations

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- Prepare an emergency spill response and cleanup plan (per BMPs for Spills of Oil and Hazardous Substances) and have designated trained person(s) available either on site or on call at all times to promptly and properly implement that plan and immediately cleanup all spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.
 - Spill Prevention and Cleanup: See Section 3.1.4 for spill prevention and cleanup BMPs as part of the SPECP.
- Train employees on the proper use of fuel dispensers. Post signs in accordance with the Uniform Fire Code (UFC). Post "No Topping Off" signs (topping off gas tanks causes

- spillage and vents gas fumes to the air). Make sure that the automatic shutoff on the fuel nozzle is functioning properly.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly at unattended or self-serve stations.
- Keep drained oil filters in a suitable container or drum.

3.2.1.2 Structural BMPs for Fueling at Dedicated Stations

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- Design the fueling island to control spills (dead-end sump or spill control separator in compliance with the UFC), and to treat collected stormwater and/or wastewater to required levels. Slope the concrete containment pad around the fueling island toward drains; either trench drains, catch basins and/or a dead-end sump. The slope of the drains shall not be less than 1 percent (Section 7901.8 of the UFC). Drains to treatment shall have a shutoff valve, which must be closed in the event of a spill. The spill control sump must be sized in compliance with Section 7901.8 of the UFC; or
- Design the fueling island as a spill containment pad with a sill or berm raised to a minimum of four inches (Section 7901.8 of the UFC) to prevent the runoff of spilled liquids and to prevent run-on of stormwater from the surrounding area. Raised sills are not required at the open-grate trenches that connect to an approved drainage-control system.
 - Drainage of Fueling Area: The 300-gallon diesel tank is provided with double-wall secondary containment. However, the fueling area does not have a containment berm or drain to a dead-end sump. The catch basins in the area of the diesel tank have a downward facing underflow pipe that would act to contain a small volume of spilled floating diesel. That feature, in addition to the spill response kit and procedures described in Section 3.1.4, is deemed adequate for this infrequently used fueling station. However, Alaskan Copper will give future consideration to installation of a containment berm and/or a larger volume dead-end containment sump.
- The fueling pad must be paved with Portland cement concrete, or equivalent. Asphalt is not considered an equivalent material.
- The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the spill containment pad. The roof or canopy should, at a minimum, cover the spill containment pad (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain. Convey all roof drains to storm drains outside of the fueling containment area.
 - Covering of fueling pad: The small 300-gallon diesel tank is used infrequently and is not provided with a roof or canopy. However, previous stormwater sampling results from this area have shown general attainment of the previous Permit oil & grease benchmark value. A future upgrade or relocation of the diesel tank to an area under cover may be considered if future problems are found with visible oil sheens in stormwater.
- Stormwater collected on the fuel island containment pad must be conveyed to a sanitary sewer system, if approved by the sanitary authority; or to an approved treatment system such as an oil/water separator and a basic treatment BMP (Basic treatment BMPs are listed in

Volume V and include media filters and biofilters). Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease. Alternatively, stormwater collected on the fuel island containment pad may be collected and held for proper off site disposal.

- Conveyance of any fuel-contaminated stormwater to a sanitary sewer must be approved by the local sewer authority and must comply with pretreatment regulations (WAC 173-216-060). These regulations prohibit discharges that could "cause fire or explosion." An explosive or flammable mixture is defined under state and federal pretreatment regulations, based on a flash point determination of the mixture. If contaminated stormwater is determined not to be explosive, then it could be conveyed to a sanitary sewer system.
- Transfer the fuel from the delivery tank trucks to the fuel storage tank in impervious contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.
- If a roof or canopy is impractical the concrete fueling pad must be equipped with emergency spill control, which includes a shutoff valve for the drainage from the fueling area. The valve must be closed in the event of a spill. An electronically actuated valve is preferred to minimize the time lapse between spill and containment. Spills must be cleaned up and disposed off-site in accordance with BMPs for Spills of Oil and Hazardous Substances.
 - **Drainage of Fueling Area**: As indicated above, a roof is considered impractical. An emergency spill control shutoff valve is not currently provided at the fueling area. Alaskan Copper will further consider installing an emergency shutoff valve for this area.
- The valve may be opened to convey contaminated stormwater to a sanitary sewer, if approved by the sewer authority, or to oil removal treatment such as an API or CP oil/water separator, catchbasin insert, or equivalent treatment, and then to a basic treatment BMP. Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.

3.2.2 BMPs for Loading and Unloading Areas for Liquid or Solid Material

This section describes the applicable BMPs for loading and unloading areas for liquid or solid material.

General Description of Potential Pollutant Sources: Loading/unloading of liquid and solid materials at industrial and commercial facilities is typically conducted at shipping and receiving, outside storage, fueling areas, etc. Transferred materials can include products, raw materials, intermediate products, waste materials, fuels, scrap metals, etc. Leaks and spills of fuels, oils, powders, organics, heavy metals, salts, acids, alkalis, etc. during transfer are potential causes of stormwater contamination. Spills from hydraulic line breaks are a common problem at loading docks.

 Applicability at Facility: The Alaskan Copper Facility loads and unloads liquid and solid materials. A 300-gallon diesel tank is located within the stormwater drainage area. A drum of solids is located within the stormwater drainage area beneath the cyclone near the southwest side of building 3317.

3.2.2.1 Operational BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- A significant amount of debris can accumulate at outside, uncovered loading/unloading areas. Sweep these surfaces frequently to remove material that could otherwise be washed away by stormwater. Sweep outside areas that are covered for a period of time by containers, logs, or other material after the areas are cleared.
 - Sweeping: See Section 3.1.2.
- Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur such as hose connections, hose reels, and filler nozzles. Drip pans shall always be used when making and breaking connections. Check loading/unloading equipment such as valves, pumps, flanges, and connections regularly for leaks and repair as needed.
- To minimize the risk of accidental spillage, prepare an Operations Plan that describes procedures for loading/unloading. Train the employees, especially forklift operators, in its execution and post it or otherwise have it readily available to employees.
- Report spills of reportable quantities to Ecology.
- Prepare and implement an Emergency Spill Cleanup Plan for the facility (BMP Spills of Oil and Hazardous Substances).

3.2.2.2 Structural BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- At all loading/unloading areas: Consistent with Uniform Fire Code requirements (Appendix IV-D R.2) and to the extent practicable, conduct unloading or loading of solids and liquids in a manufacturing building, under a roof, or lean-to, or other appropriate cover.
- Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.
- Large loading areas frequently are not curbed along the shoreline. As a result, stormwater passes directly off the paved surface into surface water. Place curbs along the edge or slope the edge such that the stormwater can flow to an internal storm drain system that leads to an approved treatment BMP.
- Pave and slope loading/unloading areas to prevent the pooling of water. The use of catch basins and drain lines within the interior of the paved area must be minimized as they will frequently be covered by material, or they should be placed in designated "alleyways" that are not covered by material, containers, or equipment.

3.2.3 BMPs for Maintenance of Stormwater Drainage and Treatment Systems

This section describes the operational BMPs for maintenance of stormwater drainage and treatment systems.

General Description of Pollutant Sources: Facilities include roadside catch basins on arterials and within residential areas, conveyance systems, detention facilities such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume V [of the Stormwater Management Manual]. Roadside catch basins can remove from 5 to 15 percent of the pollutants present in stormwater. When catch basins are about 60 percent full of sediment, they cease removing sediments. Oil and grease, hydrocarbons, debris, heavy metals, sediments and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

 Applicability at Facility: The Facility maintains catch basins and stormwater conveyance piping.

3.2.3.1 Operational and Structural BMPs

The following BMPs are adhered to at the Facility, unless noted otherwise.

- Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine whether improvements in operations and maintenance (O & M) are needed.
 - Catch Basins: The Facility catch basins are equipped with catch basin fabric filter inserts, which are inspected monthly and cleaned or replaced as needed to maintain sediment levels below 60 percent of the available sediment storage capacity and also to ensure that the debris surface is at least 6 inches below the outlet pipe in order to prevent overflow of accumulated solids out of the catch basin. During heavy rainfall months (September through April), inserts are to be cleaned (or replaced) more frequently and at least once every 2 months. If catch basins insert filters are cleaned rather than replaced, note that due to copper and zinc levels that still exceed benchmark values and because repeated cleaning of the filter fabric can cause loss of filtration performance, the catch basin insert filters will be replaced with new filter fabric once per quarter. Notes are to be recorded on the monthly inspection form if O&M improvements are needed.
- Promptly repair any deterioration threatening the structural integrity of the facilities. These include replacement of cleanout gates, catch basin lids, and rock in emergency spillways.
 - Storm Drain Blockage: If catch basins or storm drains are observed to not drain properly and contribute to turbidity and suspended solids, then inspect drain lines for debris or sediment blockage or broken piping. Clean and repair or replace storm drain lines as necessary to restore proper drainage.
- Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.
- Regularly remove debris and sludge from structural BMPs used for peak-rate control, treatment, etc., and discharge to a sanitary sewer, if approved by the sewer authority, or truck to a local or state government-approved disposal site.
- Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of the basin to the invert of the lowest pipe into or out of the basin. However, in no case should there be less than 6 inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, Washington State Department of Transportation Type 1L basins) may have as little as 12 inches sediment storage below the

invert. These catch basins will need more frequent inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.

- Catch Basins: The Facility catch basins are equipped with catch basin fabric filter inserts, which are inspected and cleaned monthly and replaced as needed to maintain sediment levels below 60 percent of the available sediment storage capacity and also to ensure that the debris surface is at least 6 inches below the outlet pipe in order to prevent overflow of accumulated solids out of the catch basin. During heavy rainfall months (September through April), inserts are to be cleaned (or replaced) more frequently and at least once every 2 months. If catch basins insert filters are cleaned rather than replaced, note that due to copper and zinc levels that still exceed benchmark values and because repeated cleaning of the filter fabric can cause loss of filtration performance, the catch basin insert filters will be replaced with new filter fabric once per quarter.
- Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.
- Post warning signs; "Dump No Waste Drains to Groundwater," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets where practical.
 - Warnings at Catch Basins: This type of warning is not currently provided at Facility
 catch basins that drain to the storm sewer. However, Alaskan Copper intends to use a
 stencil and spray paint such warnings on applicable catch basins within the next 6
 months.
- Disposal of sediments and liquids from the catch basins must comply with "Recommendations for Management of Street Wastes" from Appendix IV-G of the Stormwater Management Manual for Western Washington, available online at: http://www.ecy.wa.gov/pubs/9914.pdf.

3.2.4 BMPs for Roof/Building Drains at Manufacturing Buildings

This section describes the operational BMPs for roof/building drains at manufacturing and commercial buildings.

General Description of Pollutant Sources: Stormwater runoff from roofs and sides of manufacturing and commercial buildings can be sources of pollutants caused by leaching of roofing materials, building vents, and other air emission sources. Vapors and entrained liquid and solid droplets/particles have been identified as potential pollutants in roof/building runoff. Metals, solvents, acidic/alkaline pH, BOD, and organics, are some of the pollutant constituents identified.

Applicability at the Facility: Alaskan Copper maintains a Building 3317 air outlet that
employs a cyclone air pollution control device to remove pipe production dust and grit
from the air exhaust.

3.2.4.1 Operational BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- If leachate and/or emissions from buildings are suspected sources of stormwater pollutants, then sample and analyze the stormwater draining from the building. If a roof/building stormwater pollutant source is identified, implement appropriate source control measures such as air pollution control equipment, selection of materials, operational changes, material recycle, process changes, etc.
 - Roof Drain Sampling and Response Actions: Roof drain samples were collected in December of 2009. Based on the results of those samples, two downspout filters with metal absorption filtration media have been installed and two rain garden filtration units (stormwater planter barrels) have been installed at select downspouts between Buildings 3317 and 3405. Starting November 2010 for any future quarterly stormwater sampling event at CB 331707 in which copper or zinc are found to be above benchmark values, the effluent of the downspout filter units and the planter barrels will be sampled. The filter elements will be replaced and/or the topsoil in the planter barrels will be replaced within 2 months of the receipt of effluent results if zinc or copper are above the benchmark value and if metals removal rate is less than 50%. Alternatively, the downspout filter elements and planter barrel topsoil could just be replaced rather than testing their effluent.
 - See also, emphasis on environmentally acceptable material (i.e., not containing leachable copper or zinc) in Section 3.1.5.

3.2.5 BMPs for Storage of Liquids or Dangerous Waste Containers (Outside)

This section describes the BMPs required for Storage of Liquids, Food Wastes, or Dangerous Waste Containers (Outside).

General Description of Potential Pollutant Sources. Steel and plastic drums with volumetric capacities of 55 gallons or less are typically used at industrial facilities for container storage of liquids and powders. The BMPs specified below apply to container(s) located outside a building used for temporary storage of accumulated food wastes, vegetable or animal grease, used oil, liquid feedstock or cleaning chemical, or Dangerous Wastes (liquid or solid) unless the business is permitted by Ecology to store the wastes. Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, BOD, COD are potential pollutant constituents.

Applicability at Alaskan Copper: There is no storage of liquids, food waste, or dangerous waste containers in containers stored outdoors within the identified stormwater drainage area (with the exception of the 300-gallon diesel tank discussed separately). The BMPs are provided in this section in the event that temporary storage of liquids or dangerous wastes may need to occur in the future.

3.2.5.1 Operational BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- Place tight-fitting lids on all containers.
- Place drip pans beneath all mounted container taps and at all potential drip and spill locations during filling and unloading of containers.

- Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks/spills. Replace containers, and replace and tighten bungs in drums as needed.
- Businesses accumulating Dangerous Wastes that do not contain free liquids need only to store these wastes in a sloped designated area with the containers elevated or otherwise protected from storm water run-on.
- Drums stored in an area where unauthorized persons may gain access must be secured in a manner that prevents accidental spillage, pilferage, or any unauthorized use.
- Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
- Cover dumpsters, or keep them under cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.
- Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

3.2.5.2 Structural BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- Keep containers with Dangerous Waste, food waste, or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.
- Store containers in a designated area, which is covered, bermed or diked, paved and impervious in order to contain leaks and spills. The secondary containment shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.
- For liquid wastes, surround the containers with a dike. The dike must be of sufficient height to provide a volume of either 10 percent of the total enclosed container volume or 110 percent of the volume contained in the largest container, whichever is greater, or, if a single container, 110 percent of the volume of that container.
- Where material is temporarily stored in drums, a containment system can be used.
- Place containers mounted for direct removal of a liquid chemical for use by employees inside a containment area as described above. Use a drip pan during liquid transfer.
- Include a tank overfill protection system to minimize the risk of spillage during loading.

3.2.6 BMPs for Storage of Liquids in Permanent Aboveground Tanks

This section describes the operational, structural, and treatment BMPs for the storage of liquids in permanent aboveground storage tanks.

General Description of Pollutant Sources: Above-ground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. They may be heated with steam heat exchangers equipped with steam traps. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.

 Applicability at the Facility: The 300-gallon diesel tank located between Buildings 3405 and 3317 is a double-walled steel tank to provide secondary containment. A short concrete block wall surrounds the tank to provide physical protection from forklift or other impacts.

3.2.6.1 Operational BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc.
- Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Valved drain tubing may be needed in mounted drip pans.
- Sweep and clean the tank storage area regularly, if paved.
- Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.
- All installations shall comply with the Uniform Fire Code and the National Electric Code.

3.2.6.2 Structural BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

- Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment areas surrounded by dikes or UL-approved double-walled tanks. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater, or, if a single tank, 110 percent of the volume of that tank.
 - Secondary Containment: The 300-gallon diesel tank is of double-wall steel construction to provide secondary containment. The concrete wall around this tank was installed for added physical protection.
- Slope the secondary containment to drain to a dead-end sump (optional), or equivalent, for the collection of small spills.
- Include a tank overfill protection system to minimize the risk of spillage during loading.

3.2.6.3 Treatment BMPs

The following BMPs are required by the Permit and are adhered to at the Facility, unless noted otherwise:

• If the tank containment area is uncovered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed and may be opened, manually or automatically, only to convey contaminated stormwater to approved treatment or disposal, or to convey uncontaminated stormwater to a storm drain. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical

operational problems at the facility. Simple pH measurements with litmus or pH paper can be used for areas subject to acid or alkaline contamination.

3.2.7 BMPs for Urban Streets

This section describes the recommended BMPs for urban streets.

General Description of Pollutant Sources: Streets can be the sources of vegetative debris, paper, fine dust, vehicle liquids, tire wear residues, heavy metals (lead and zinc), soil particles, ice control salts, domestic wastes, lawn chemicals, and vehicle combustion products. Street surface contaminants have been found to contain significant concentrations of particle sizes less than 250 microns.

- Applicability at the Facility: An urban street (6th Avenue South) runs north-south through the middle of the Alaskan Copper Facility.

3.2.7.1 Recommended BMPs for Urban Streets

The following BMPs are recommended, but not required, and could potentially help reduce turbidity, zinc, and other pollutants from entering the Facility stormwater system.

- For maximum stormwater pollutant reductions on curbed streets and high volume parking lots use efficient vacuum sweepers (refer to Volume V, Ch. 12, for information about an emerging high-efficiency vacuum sweeper technology). Note: High-efficiency street sweepers utilize strong vacuums and the mechanical action of main and gutter brooms combined with an air filtration system that only returns clean air to the atmosphere (i.e., filters very fine particulates). They sweep dry and use no water since they do not emit any dust. It has been reported that high-efficiency vacuum sweepers have the capability of removing, from pavements under good condition, 80 percent or more of the accumulated street dirt particles whose diameters are less than 250 microns. This assumes pavements under good condition and reasonably expected accumulation conditions.
- For moderate stormwater pollutant reductions on curbed streets use regenerative air sweepers or tandem sweeping operations. Note: A tandem sweeping operation involves a single pass of a mechanical sweeper followed immediately by a single pass of a vacuum sweeper or regenerative air sweeper. A regenerative air sweeper blows air down on the pavement to entrain particles and uses a return vacuum to transport the material to the hopper. These operations usually use water to control dust. This reduces their ability to pick up fine particulates. It has been reported that these types of sweepers have the capability of removing approximately 25 to 50 percent of the accumulated street dirt particles whose diameters are less than 250 microns. This assumes pavements under good conditions and typical accumulation conditions.
- For minimal stormwater pollutant reductions on curbed streets use mechanical sweepers. Note: Mechanical sweepers are referred to as broom sweepers and use the mechanical action of main and gutter brooms to throw material on a conveyor belt that transports it to the hopper. These sweepers usually use water to control dust. This reduces their ability to pick up fine particulates. It has been reported that mechanical sweepers have the capability of removing only 10 to 20 percent of the accumulated street dirt particles whose diameters are less than 250 microns. This assumes pavements under good condition and the most favorable accumulation conditions.

- Conduct sweeping at optimal frequencies. Optimal frequencies are those scheduled sweeping intervals that produce the most cost effective annual reduction of pollutants normally found in stormwater and can vary depending on land use, traffic volume, and rainfall patterns.
- Train operators in those factors that result in optimal pollutant removal. These factors include sweeper speed, brush adjustment and rotation rate, sweeping pattern, maneuvering around parked vehicles, and interim storage and disposal methods.
- Establish programs for prompt sweeping, removal, and disposal of debris from special events that will generate higher than normal loadings.
- Disposal of street sweeping solids must comply with "Recommendations for Management of Street Wastes" described in Appendix IV-G of the SWMMWW.

3.3 TREATMENT BEST MANAGEMENT PRACTICES (S3.B.4.b.iii)

The Permit does not require treatment BMPs for the industrial activities conducted at the Facility. Operational and source control BMPs discussed in this SWPPP are assumed to be adequate. However, catch basin insert filters are used, and the additional treatment BMPs described in this SWPPP (see Section 3.2.4.1 above) are being implemented as needed, based on exceeding benchmarks.

3.4 STORMWATER PEAK RUNOFF AND VOLUME CONTROL BEST MANAGEMENT PRACTICES (S3.B.4.b.iv)

The Alaskan Copper Facility is believed to have been constructed in accordance with stormwater drainage rules in effect at the time of construction or Facility expansions. The receiving waters for stormwater runoff from the Facility that does not drain to the combined sanitary sewer system are the lower Duwamish Waterway and the East Waterway, which are large water bodies that are not subject to flow control limitations. Alaskan Copper does not maintain peak runoff and volume control BMPs beyond the existing catch basin storm drain network.

3.5 EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (S3.B.4.b.v)

BMP options for soil erosion and sediment control at industrial sites are listed below:

- Plant vegetative cover, such as grass, trees, and shrubs, on erodible soil areas. Cover with mats, such as clear plastic, jute, and synthetic fiber. Preserve natural vegetation, including grass, trees, shrubs, and vines.
- Maintain vegetated swale, dike, silt fence, check dam, gravel filter berm, sedimentation basin, and proper grading.
 - Soil Erosion and Sediment Control: Alaskan Copper does not perform industrial activities on unpaved areas.

4.0 STORMWATER MONITORING PLAN (S3.B.5)

The Permit requires each facility to conduct and document visual inspections of the site and to sample and test representative stormwater discharges at least once per quarter for at least four consecutive quarters. Specific stormwater monitoring requirements are presented below.

4.1 MONITORING LOCATIONS, REQUIREMENTS, AND METHODS

In accordance with Permit Condition S7, qualified personnel are to conduct and document a visual inspection of the site each month. Each inspection shall include observations made at locations where stormwater associated with industrial activity is discharged off site to waters of the state or to a storm sewer system that drains to waters of the state. For the Alaskan Copper Facility, those locations are identified to be CB331707, CB330001, CB330102, and the City maintained catch basin southeast of Building 2958. The results of each inspection are to be recorded on the Monthly Inspection Form (Appendix C), and these completed forms are to be kept on site for Ecology review.

The ISGP requires that stormwater samples be collected and tested quarterly from location(s) that are representative of stormwater being discharged from the facility. As of July 2010, the industrial operations in Building 3223 and the north half of Building 3301 have been relocated to the Kent facility. Stormwater samples at Alaskan Copper are collected from catch basins CB331707 and CB330001, as these two locations are discharge points that discharge to storm drains rather than to the sanitary sewer and are where industrial activities occur. The locations of these two catch basins are shown on Figure 2. Sampling of stormwater must be performed according to the following Permit criteria:

• Sampling of the stormwater discharge is to be conducted at least once per quarter:

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1<sup>st</sup> Quarter = January, February, and March
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2nd Quarter = April, May, and June

3rd Quarter = July, August, and September

4th Quarter = October, November, and December

- Sample the stormwater discharge from the first fall storm event each year. "First fall storm event" means the first time after October 1 of each year that precipitation occurs and results in a stormwater discharge from a facility. The first fall storm event sample will complete the requirement to take a 4th Quarter sample.
- Collect samples within the first 12 hours of stormwater discharge events. If it is not possible to collect a sample within the first 12 hours of a stormwater discharge event, Facility personnel must collect the sample as soon as practicable after the first 12 hours and keep documentation with the sampling records explaining why sampling could not occur within the first 12 hours.
- Sampling need not be performed outside of regular business hours, during unsafe conditions (e.g., during thunderstorms), or during quarters where there is no discharge.

To efficiently comply with these criteria (especially the first fall sampling event), attention must be paid to weather forecasts in order to anticipate when stormwater discharge will first occur at the designated discharge location.

4.1.1 METHODS FOR VISUAL INSPECTIONS

Visual inspections include assessments of BMPs, and observations for the presence of non-permitted stormwater discharges, floating materials, visible sheen, discoloration, turbidity, or odor in the stormwater discharge at the sampling point. Visual inspection results will be recorded on the monthly inspection form provided at the beginning of Appendix C. These completed forms, referred to in the Permit as visual inspection reports, must be signed by the person making the observations as well as by Alaskan Copper's Responsible Official or other duly authorized representative of the Facility (as described in Condition G.2a of the Permit). The form includes a certification that the Facility is in compliance or non-compliance with the SWPPP and the Permit. If the Facility inspection indicates that the requirements of the SWPPP or the Permit are not being met, the monthly inspection form must include a summary of the actions that will be taken to meet these requirements. See Section S9.E of the Permit for instructions on reporting incidents of non-compliance.

4.1.2 METHODS FOR STORMWATER SAMPLING

Stormwater samples will be collected from the designated catch basin sampling locations by either reaching into the catch basin or by using a sampling pole with sampling jar affixed to the end of the pole. Stormwater samples will be obtained by submerging the sampling bottles into the stormwater flow at the drainage pipe opening without overfilling the bottles. However, if the catch basin drainage pipe inlets are submerged, the sample will be collected from the upper portion of the stormwater in the catch basin near the inlet pipe. Additional sampling protocols are listed on pages 9 and 10 of the Ecology guidance on sampling, accessible through the following link: (http://www.ecy.wa.gov/pubs/0210071.pdf).

According to the Permit requirements for this type of industrial facility, stormwater will be sampled once per quarter for the parameters listed below.

Parameter	Units	Container	Preservative	Analytical Method (Holding time)	Benchmark Value	Laboratory Quantification Level
Turbidity	NTU	500mL polyethylene bottle	None if field meter, or cool to 4°C if not brought directly to lab	Field meter or meter in lab. EPA 180.1 (48 hours)	25 NTU	0.5
рН	SU	Disposable cup	None, measure immediately	Meter or pH paper in field. pH paper within +/- 0.5 SU or less. Measure immediately.	5-9 SU	+/- 0.5
Oil Sheen	Yes/No	N/A	N/A	N/A	No visible oil sheen	· N/A
Total Copper	μg/L	500 mL polyethylene bottle with acid preservative	Acid, cool to 4°C if not brought directly to lab	EPA Method 200.8 in lab (6 months)	14 μg/L	2.0
Total Zinc	μg/L	500 mL polyethylene bottle with acid preservative	Acid, cool to 4°C if not brought directly to lab	EPA Method 200.8 in lab (6 months)	117 μg/L	2.5
Total Lead	μ g/L	500 mL polyethylene bottle with acid preservative	Acid, cool to 4°C if not brought directly to lab	EPA Method 200.8 in lab (6 months)	81.6 μg/L	0.5
Total Petroleum Hydrocarbons (TPH)	mg/L	Two 500 mL amber glass bottles	None, cool to 4°C if not brought directly to lab	NWTPH-Dx	10 mg/L	0.1

NTU = nephelometric turbidity unit

mL = milliliter

mg/L = milligrams per liter

μg/L = microgram per liter

SU = standard unit

EPA = U.S. Environmental Protection Agency

N/A = not applicable

In addition, during every quarter since the first quarter of 2005 under the previous ISGP and also required under the 2010 ISGP, all facilities that discharge to impaired waterbody segments listed by the state for violations of sediment standards under Section 303(d) of the Clean Water Act must conduct quarterly sampling of authorized discharges of stormwater to surface water for total suspended solids (TSS). This Facility discharges to an impaired waterbody (Duwamish Waterway) and therefore is required to include TSS as part of its quarterly sampling program. Discharges that demonstrate TSS levels consistent with effluent limits are considered unlikely to violate sediment quality standards.

Parameter	Units	Container	Preservative	Analytical Method (Holding time)	Effluent Limit	Laboratory Quantification Level
Total Suspended Solids (TSS)	mg/L	500 mL polyethylene bottle	None	EPA 160.2 (7 days)	30 mg/L	5 mg/L

Sampling requires filling appropriate containers as described above. The laboratory can provide a cooler with all the necessary sample collection jars upon request. It is recommended that a cooler with collection jars be kept on site ahead of time in preparation for qualifying rain events. The Permittee has the option of measuring pH and/or turbidity in the field with either an appropriate meter or combination of pH paper and turbidity meter. The pH can be measured by inserting a strip of pH paper (provided by the laboratory) into a disposable cup for 2 to 10 minutes and comparing the strip to the color chart. Record the result in the field notebook. If the permittee does not have appropriate field meters, the laboratory is able to analyze all necessary sampling parameters.

After filling the sample bottles with stormwater from the sample location, put the bottles into the cooler supplied by the laboratory and add ice or blue ice to cool the samples if the samples are not brought directly to laboratory. Samples from catch basins are currently labeled according to the designation listed in Section 4.4, which is based on the vicinity building name and the designated catch basin number associated with that building. For example, CB331707 denotes the 7th designated catch basin in the vicinity of building 3317.

4.2 RECORDKEEPING

Records required to be retained include the information recorded in the field during stormwater monitoring and the laboratory reports provided by the laboratory. All of the information to be recorded in the field is summarized on the Quarterly Stormwater Sampling form and Monthly Inspection form located in Appendix C. These forms, along with the laboratory data, should be kept in the recordkeeping section of this SWPPP (Appendix C). Copies of Discharge Monitoring Reports (DMRs), explained in Section 4.11, should also be kept in Appendix C. Field forms and laboratory reports must be retained for at least 5 years, according to the Permit. Blank forms including DMRs, quarterly stormwater sampling forms, and monthly inspection forms are provided at the beginning of Appendix C.

4.3 SUBMITTAL OF SAMPLES TO THE LABORATORY

Stormwater samples should be submitted to an accredited laboratory. Alaskan Copper currently uses Freidman & Bruya, Inc., which is located at:

Freidman & Bruya, Inc. 3012 16th Avenue West Seattle, Washington 98119-2029 (206-285-8282)

The sample bottles must be labeled and the chain-of-custody (COC) form must be completed.

The stormwater sample bottles should be packed in the cooler on ice if not brought directly to the

laboratory. If the cooler will leave the sampler's possession before arriving at the laboratory, place the completed COC form inside a Zip-loc bag and inside the cooler, then seal the cooler and bring the cooler to the laboratory. If the turbidity is not measured with a field meter, the sample must be brought to the laboratory as soon as possible because the sample's turbidity level needs to be analyzed by the laboratory within 48 hours of sample collection.

4.4 EVALUATION OF SAMPLING RESULTS

Three main things need to happen with the stormwater monitoring data. First, the stormwater sampling results must be submitted to Ecology on a quarterly basis (see Section 4.1). Second, the stormwater sampling results must be compared to the benchmark values shown in Section 4.1.2 to assess the effectiveness of the current BMPs in preventing pollutants from entering stormwater. Values at or below benchmark values are considered unlikely to cause a water quality violation and consistent attainment of benchmark values over four consecutive quarters, collected after January 1, 2010, suspends the need to conduct further stormwater sampling for a particular parameter (unless significant process changes take place at the Facility). Therefore, no additional action is needed if sampling results are below benchmark values, with the exception that monthly inspections must continue and DMRs still need to be submitted indicating that consistent attainment has been achieved.

Unlike exceedances of effluent limits, exceedance of benchmark values does not constitute a violation of the Permit because benchmark values are not water quality standards and are not Permit limits. However, it is an indicator that additional measures should be taken to reduce the entry of pollutants into stormwater at the Facility. These response measures range from implementing additional operational BMPs (Level One Corrective Action) to implementing stormwater treatment BMPs (Level Three Corrective Action). These Permit-required corrective actions and the criteria that trigger them are presented below.

Level One Corrective Actions - Operational Source Control BMPs

Permittees that exceed any applicable benchmark value(s) shall complete a Level 1 Corrective Action for each parameter exceeded in accordance with the following:

- 1. Review the SWPPP and ensure that it fully complies with Permit Condition S3, and contains the correct BMPs from the applicable Stormwater Management Manual.
- 2. Make appropriate revisions to the SWPPP to include additional Operational Source Control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. The Permittee shall sign and certify the revised SWPPP in accordance with S3.A.6.
- 3. Summarize the Level 1 Corrective Actions in the Annual Report (Condition S9.B).
- 4. Level One Deadline: The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than the DMR due date for the quarter the benchmark was exceeded.

Level Two Corrective Actions - Structural Source Control BMPs

Permittees that exceed an applicable benchmark value (for a single parameter) for any two quarters during a calendar year shall complete a Level 2 Corrective Action in accordance with the following:

- 1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
- 2. Make appropriate revisions to the SWPPP to include additional Structural Source Control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. The Permittee shall sign and certify the revised SWPPP in accordance with S3.A.6.
- 3. Summarize the Level 2 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B).
- 4. Level 2 Deadline: The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than September 30th the following year.
 - a. If installation of necessary Structural Source Control BMPs is not feasible by September 30th the following year, Ecology may approve additional time, by approving a Modification of Permit Coverage.
 - b. If installation of Structural Source Control BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to a violation of a water quality standard, Ecology may waive the requirement for additional Structural Source Control BMPs by approving a Modification of Permit Coverage.
 - c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form to Ecology in accordance with Condition S2.B, by June 1st prior to the Level 2 Deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Coverage request.

Level Three Corrective Actions - Treatment BMPs

Permittees that exceed an applicable benchmark value (for a single parameter) for any three quarters during a calendar year shall complete a Level 3 Corrective Action in accordance with the following:

- 1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
- 2. Make appropriate revisions to the SWPPP to include additional Treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.
 - a. The Permittee shall sign and certify the revised SWPPP in accordance with Permit Condition S3.A.6.
 - b. A licensed professional engineer, geologist, hydrogeologist, or Certified Professional in Storm Water Quality (CPSWQ) shall design and stamp the portion of the SWPPP that addresses stormwater treatment structures or processes.
 - i. Ecology may waive the requirement for a licensed or certified professional upon request of the Permittee and demonstration that the Permittee or treatment device vendor can properly design and install the treatment device.
 - ii. Ecology will not waive the Level 3 requirement for a licensed or certified professional more than one time during the permit cycle.
- 3. Summarize the Level 3 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B).
- 4. **Level 3 Deadline**: The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the applicable Stormwater Management Manual as soon as possible, but no later than September 30th the following year.
 - a. If installation of necessary Treatment BMPs is not feasible by the Level 3 Deadline, Ecology may approve additional time by approving a Modification of Permit Coverage.
 - b. If installation of Treatment BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard, Ecology may waive the requirement for Treatment BMPs by approving a Modification of Permit Coverage.
 - c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form to Ecology in accordance with Condition S2.B, by June 1st prior to the Level 3 Deadline. Ecology will approve or deny the request within 60 days of receipt of a complete Modification of Coverage request.

Facilities that continue to exceed benchmarks after a Level 2 (or Level 3) Corrective Action is triggered, but prior to the Level 2 (or Level 3) Deadline, are not required to complete another Level 2 or 3 Corrective Action the following year for the same parameter. However, a Level 1 Corrective Action is required each time a benchmark is exceeded.

Finally, the results of all visual inspection data should be used to determine if action is needed to respond to the observation of visible pollutants. Response actions may include cleanup of the observed

condition and/or investigation of the source of the condition. These response actions must be documented in the monthly inspection form.

The laboratory results from the Appendix C stormwater sampling data are maintained in a separate spreadsheet database for comparison to benchmarks. The data are reviewed to track BMP effectiveness, whether benchmark concentrations are exceeded, and whether the required corrective actions in the Permit are triggered.

4.5 SUBMITTING THE SAMPLING RESULTS TO ECOLOGY

The Permit requires that the stormwater sampling results be submitted to Ecology on a quarterly basis within 45 days following the end of the reporting period. For example, fourth quarter 2010 sampling results must be submitted no later than February 14, 2011. The Facility is not required to submit visual inspection results but must retain the reports in its records as an attachment to the SWPPP. Sampling data must be summarized and submitted on a Discharge Monitoring Report form (DMR) every quarter. The DMR must be signed by a high-ranking company official in accordance with General Condition G2.a of the Permit (James Brown is the Facility's Responsible Official authorized to sign the DMR forms). Sampling data may be submitted electronically via Ecology's WebDMR system (when operable) or they can also be mailed to:

Washington State Department of Ecology Water Quality Program – Industrial Stormwater P.O. Box 47696 Olympia, Washington 98504-7696

DMR forms must be submitted quarterly whether or not a sample was collected. If there was no sample collected due to insufficient storm events, submit the form marking the "no discharge" check box. DMR forms must also be submitted quarterly if sampling has been suspended as a result of consistent attainment of benchmark values. If sampling has been suspended based on consistent attainment, submit the form marking the "consistent attainment" check box.

In addition, the Permittee shall submit a complete and accurate Annual Report to Ecology covering the prior year's Permit compliance activities no later than May 15 of each year (except 2010) using a form provided by or otherwise approved by Ecology. The annual report shall include corrective action documentation as required in S8.BD. If corrective action is not yet completed at the time of submission of the annual report, the Permittee must describe the status of any outstanding corrective action(s). Permittees shall retain a copy of all annual reports on site for Ecology review and shall include the following information with each annual report:

- Identify the condition triggering the need for corrective action review.
- Describe the problem(s) and identify the dates they were discovered.

- Summarize any Level 1, 2, or 3 corrective actions completed during the previous calendar year and include the dates it completed the corrective actions.
- Describe the status of any Level 2 or 3 corrective actions triggered during the previous calendar year, and identify the date it expects to complete corrective actions.

For questions about the Industrial Stormwater General Permit or DMR submittals, Clay Keown at Ecology is an available contact person (360-407-6048 or ckeo461@ecy.wa.gov). Joe Kalmar and Gary Huitsing from Landau Associates (425-778-0907) are also available to answer questions.

5.0 USE OF THIS REPORT

This Stormwater Pollution Prevention Plan has been prepared for the exclusive use of Alaskan Copper and applicable regulatory agencies. No other party is entitled to rely on the information, conclusions, and recommendations included in this document without the express written consent of Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

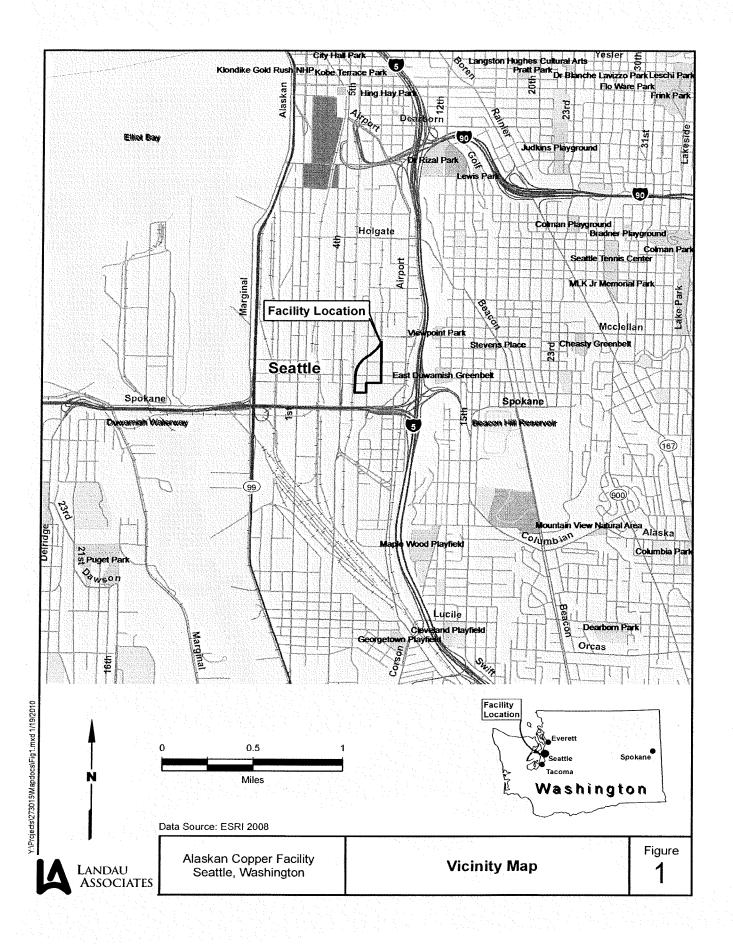
This document has been prepared under the supervision and direction of the following key staff.

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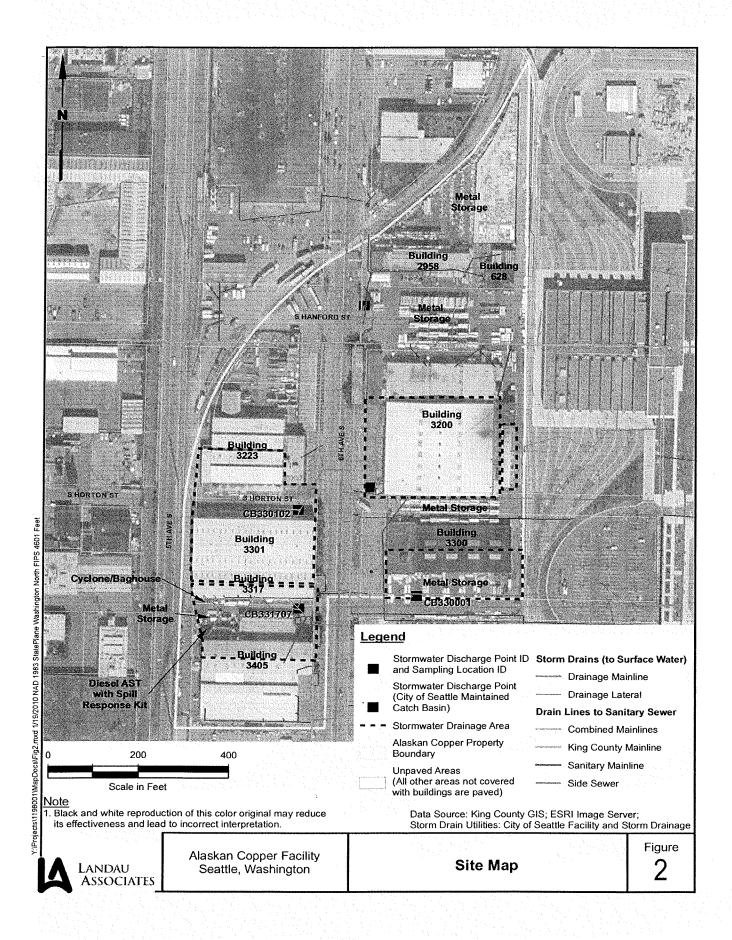


TABLE 1 STORMWATER BEST MANAGEMENT PRACTICES POTENTIALLY APPLICABLE TO ALASKAN COPPER SEATTLE, WASHINGTON

Best Management Practices (BMPs)	Applicability of BMP to this Facility	Comments	
0			
Operational Source Control BMPs Applicable Operational Source Control BMPs	Applies to this facility	See Stormwater Pollution Prevention Plan (SWPPP) Section 3.1.	
Structural Source Control BMPs			
BMPs for the Building, Repair, and Maintenance of Boats and Ships	Does not apply	Alaskan Copper does not have a boatyard or shipyard.	
BMPs for Commercial Animal Handling Areas	Does not apply	Alaskan Copper does not handle animals.	
BMPs for Commercial Composting	Does not apply	Alaskan Copper is not a composting facility.	
BMPs for Commercial Printing Operations	Does not apply	Alaskan Copper is not a commercial printing facility.	
BMPs for De-icing and Anti-Icing Operations – Airports and Streets	Does not apply	Alaskan Copper does not perform de- icing activities.	
BMPs for Dust Control at Disturbed Land Areas and Unpaved Roadways and Parking Lots	Does not apply	No unpaved ground within the stormwater drainage area.	
BMPs for Dust Control at Manufacturing Areas	Does not apply	Alaskan Copper does not have outdoor	
		manufacturing areas which require dust control. See Section 3.2.4 for BMPs addressing air emissions from roofs.	
BMPs for Fueling at Dedicated Stations	Applies to this facility	See SWPPP Section 3.2.1.	
BMPs for Illicit Connections to Storm Drains	Does not apply	Alaskan Copper has no known illicit connections to storm drains.	
BMPs for Landscaping and Lawn/Vegetation Management	Does not apply	Alaskan Copper does not have grassy areas or lawns.	
BMPs for Loading and Unloading Areas for	Applies to this facility	See SWPPP Section 3.2.2.	
Liquid or Solid Material			
BMPs for Log Sorting and Handling	Does not apply	Alaskan Copper does not maintain a log yard.	
BMPs for Maintenance and Repair of Vehicles and Equipment	Applies to this facility	Alaskan Copper conducts maintenance of vehicles off site. Minor maintenance, if needed, is performed indoors.	
BMPs for Maintenance of Public and Private Utility Corridors and Facilities	Does not apply	No large utility corridors are present on site.	
BMPs for Maintenance of Roadside Ditches	Does not apply	Alaskan Copper does not have roadside ditches.	
BMPs for Maintenance of Stormwater Drainage and Treatment Systems	Applies to this facility	See SWPPP Section 3.2.3.	
BMPs for Manufacturing Activities – Outside	Does not apply	Alaskan Copper does not conduct manufacturing activities outdoors.	
BMPs for Mobile Fueling of Vehicles and Heavy Equipment	Does not apply	Alaskan Copper does not conduct mobile fueling outdoors.	
BMPs for Painting/Finishing/Coating of Vehicles/Boats/ Buildings/Equipment	Does not apply	Alaskan Copper does not paint or coat materials.	
BMPs for Parking and Storage of Vehicles and Equipment	Applies to this facility	See SWPPP Section 3.2.7, which includes parking-related BMPs.	
BMPs for Railroad Yards	Does not apply	Alaskan Copper does not perform maintenance of railcars.	

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LANDAU ASSOCIATES

TABLE 1 STORMWATER BEST MANAGEMENT PRACTICES POTENTIALLY APPLICABLE TO ALASKAN COPPER SEATTLE, WASHINGTON

Best Management Practices (BMPs)	Applicability of BMP to this Facility	Comments
BMPs for Recyclers and Scrap Yards	Does not apply	Alaskan Copper does recycle and maintain scraps of various materials; however, it is not a recycling or scrap yard facility.
BMPs for Roof/Building Drains at Manufacturing and Commercial Buildings	Applies to this facility	See SWPPP Section 3.2.4.
BMPs for Spills of Oil and Hazardous Substances	Applies to this facility	See Good Housekeeping Spill BMPs in SWPPP Section 3.1.4 and BMPs for ASTs in SWPPP Section 3.2.6.
BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers (Outside).	No storage of this type within the stormwater drainage area.	These BMPs were included only for potential future reference. See SWPPP Section 3.2.5.
BMPs for Storage of Liquids in Permanent Aboveground Tanks (ASTs)	Applies to this facility	See SWPPP Section 3.2.6.
BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-products, or Finished Products	Applies to this facility	See SWPPP Section 3.2.2 for BMPs for Loading and Unloading Areas for Liquid or Solid Material.
BMPs for Urban Streets	Applies to this facility	See SWPPP Section 3.2.7.
BMPs for Washing and Steam Cleaning Vehicles/Equipment/Building Structures	Does not apply	Alaskan Copper does not perform washing or steam cleaning.
BMPs for Wood Treatment Areas	Does not apply	Alaskan Copper does not perform wood treatment outdoors.
Treatment BMPs		
Various	May apply to this facility	Additional treatment BMPs beyond those described in this SWPPP (such as recommended catch basin inserts) will be implemented, if needed, based on meeting benchmark and action levels (See SWPPP Section 3.3).
Stormwater Peak Runoff Rate and Volume		
Control BMPs Various BMPs	Does not apply	Alaskan Copper is not required to have peak runoff rate or volume control BMPs.
Erosion and Sediment Control BMPs BMPs for Soil Erosion and Sediment Control at Industrial Sites	Does not apply	Alaskan Copper does not have industrial activities on soil areas.

Industrial Stormwater General Permit

Issuance Date: Effective Date: Expiration Date: October 21, 2009 January 1, 2010 January 1, 2015

INDUSTRIAL STORMWATER GENERAL PERMIT

A National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated With Industrial Activities

State of Washington
Department of Ecology
Olympia, Washington 98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.

Until this permit expires, is modified or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions which follow.

Kelly Susewind, P.E., P.G.

Water Quality Program Manager

Washington State Department of Ecology

TABLE OF CONTENTS

SUM	MARY OF PERMIT REPORTS & SUBMITTALS	5
SUM	MARY OF REQUIRED ONSITE DOCUMENTATION	5
S1.	PERMIT COVERAGE	6
	A. Facilities Required to Seek Coverage Under This General Permit	
	B. Significant Contributors of Pollutants	
	C. Facilities Not Required to Obtain Coverage	
	D. Facilities Excluded from Coverage	9
	E. Discharges to Ground	
	F. Conditional "No Exposure" Exemption	10
S2.	APPLICATION FOR COVERAGE	11
	A. Obtaining Permit Coverage	11
	B. Modification of Permit Coverage	
	C. Permit Coverage or Permit Modification Timeline	12
	D. Transfer of Permit Coverage	12
S3.	STORMWATER POLLUTION PREVENTION PLAN (SWPPP)	13
	A. General Requirements	13
	B. Specific SWPPP Requirements	14
S4.	GENERAL SAMPLING REQUIREMENTS	21
	A. General Requirements	21
	B. Sampling Requirements	
	C. Analytical Procedures for Sampling Requirements	24
	D. Laboratory Accreditation	24
S5.	BENCHMARKS, EFFLUENT LIMITATIONS AND SPECIFIC SAMPLING	
REQ	UIREMENTS	
	A. Benchmarks and Sampling Requirements	
	B. Additional Sampling Requirements for Specific Industrial Groups	
	C. Stormwater Discharges Subject to Effluent Limitation Guidelines	
	D. Conditionally Authorized Non-Stormwater Discharges	
	E. Prohibited Discharges	
	F. General Prohibitions	30
S6.	DISCHARGES TO 303(d)-LISTED OR TMDL WATERS	
	A. General Requirements for Discharges to 303(d)-listed Waters	
	B. Limits on Coverage for New Discharges to TMDL or 303(d)-listed Waters	
	C. Additional Sampling Requirements and Effluent Limits for Discharges to Certain 303(d)-listed Waters	
	D. Paguiramenta for Discharges to Waters with Applicable TMDLs	

S7.	INSPECTIONS	33
	A. Inspection Frequency and Personnel	33
	B. Inspection Components	33
	C. Inspection Results	
	D. Reports of Non-Compliance	34
S8.	CORRECTIVE ACTIONS	34
	A. Implementation of Source Control and Treatment BMPs from Previous Permit	
	B. Level One Corrective Actions – Operational Source Control BMPs	
	C. Level Two Corrective Actions – Structural Source Control BMPs	
	D. Level Three Corrective Actions – Treatment BMPs	36
S9.	REPORTING AND RECORDKEEPING	37
3).	A. Discharge Monitoring Reports.	
	B. Annual Reports	
	C. Records Retention	
	D. Additional Sampling by the Permittee	
	E. Reporting Permit Violations	
	F. Public Access to SWPPP	
	1. I dolle recess to 5 WIII	57
S10.	COMPLIANCE WITH STANDARDS	40
S11.	PERMIT FEES	40
511.	FERWII FEES	40
S12.	SOLID AND LIQUID WASTE MANAGEMENT	40
1.		
S13.	NOTICE OF TERMINATION (NOT)	
	A. Conditions for a NOT	
	B. Procedure for Obtaining Termination	41
G1.	DISCHARGE VIOLATIONS	42
~		
G2.	SIGNATORY REQUIREMENTS.	42
~~		
G3.	RIGHT OF INSPECTION AND ENTRY	43
G4.	GENERAL PERMIT MODIFICATION AND REVOCATION	43
J. 13		
G5.	REVOCATION OF COVERAGE UNDER THE PERMIT	43
G6.	REPORTING A CAUSE FOR MODIFICATION	11
Go.	REPORTING A CAUSE FOR MODIFICATION	44
G7.	COMPLIANCE WITH OTHER LAWS AND STATUTES	44
C 0		
G8.	DUTY TO REAPPLY	44
G9.	REMOVED SUBSTANCES	44
	DATE AND	
G10.	DUTY TO PROVIDE INFORMATION	45

G11.	OTHER REQUIREMENTS OF 40 CFR	45
G12.	ADDITIONAL SAMPLING	45
G13.	PENALTIES FOR VIOLATING PERMIT CONDITIONS	45
G14.	UPSET	45
G15.	PROPERTY RIGHTS	
G16.	DUTY TO COMPLY	46
G17.	TOXIC POLLUTANTS	46
G18.	PENALTIES FOR TAMPERING	46
G19.	REPORTING PLANNED CHANGES	46
G20.	REPORTING OTHER INFORMATION	47
G21.	REPORTING ANTICIPATED NON-COMPLIANCE	47
G22.	REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT	47
G23.	APPEALS	48
G24.	SEVERABILITY	48
G25.	BYPASS PROHIBITED	48
APPEN	NDIX 1 - ACRONYMS	50
APPEN	IDIX 2 - DEFINITIONS	51
APPEN	NDIX 3 - SWPPP CERTIFICATION FORM	59
APPEN	IDIX 4 - EXISTING DISCHARGERS TO IMPAIRED WATER BODIES	60
APPEN	IDIX 5 - DISCHARGERS SUBJECT TO TMDL REQUIREMENTS	60

SUMMARY OF PERMIT REPORTS & SUBMITTALS

Permit Section	Submittal	Frequency	Due Date(s)
S1.F	Conditional "No Exposure" Certification Form	As necessary	As necessary
S2.B	Application for Permit Coverage	As necessary	As necessary
S2.B.	Request Modification of Permit Coverage	As necessary	As necessary
S2.D	Request Transfer of Coverage	As necessary	As necessary
S9.A	Discharge Monitoring Reports		within 45 days after the end of each quarter
S9.B	Annual Report	1/year	May 15 th (except 2010)
S9.C.	SWPPP, if requested by <i>Ecology</i>	Per <i>Ecology</i> request	Within 14 days of request
S9.D	Noncompliance Notification	As necessary	Within 30 days of noncompliance event

SUMMARY OF REQUIRED ONSITE DOCUMENTATION¹

Permit Condition(s)	Document Title
S3.A.4.a	Stormwater Pollution Prevention Plan (SWPPP) ²
S9.B	Copies of Annual Reports
S9.C.1.a	Copy of Permit
S9.C.1.b	Copy of Permit Coverage Letter
S9.C.1.c	Original Sampling Records (Field Notes and Laboratory Reports)
S7.C & S9.C.1.d	Site Inspection Reports
S9.C.1.j	Copies of Discharge Monitoring Reports (DMRs)

¹ A complete list is contained in Condition S9.C. The permittee shall make all plans, documents and records required by this permit immediately available to Ecology or the local jurisdiction upon request.

² With signed and completed SWPPP Certification Form(s) – see Appendix 3

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Facilities Required to Seek Coverage Under This General Permit

This statewide permit applies to facilities conducting industrial activities that discharge stormwater to a surface water body or to a storm sewer system that drains to a surface water body. Beginning on the effective date of this permit and lasting through its expiration date, the Permittee is authorized to discharge stormwater and conditionally approved non-stormwater discharges to waters of the state. All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit.

The permit requires coverage for private entities, state, and *local government* facilities, and includes *existing facilities* and *new facilities*. Facilities conducting industrial activities listed in Table 1 or referenced in S1.A3 shall apply for coverage under this permit or apply for a Conditional No Exposure exemption, if eligible (Condition S1.F). The *Department of Ecology (Ecology)* may also require permit coverage for any *facility* on a case-by-case basis in order to protect *waters of the state* (Condition S1.B).

1. Facilities engaged in any industrial activities in Table 1 shall apply for coverage if stormwater from the facility discharges to a surface water body, or to a storm sewer system that discharges to a surface water body. The Standard Industrial Classification (SIC) groups generally, but not always, associated with these activities are listed in Table 1.

Table 1: Activities Requiring Permit Coverage and the Associated SIC Code Groups

Industrial Activities	SIC Code
Metal Mining	10xx
Coal Mining	12xx
Oil and Gas Extraction	13xx
Mining and Quarrying of Nonmetallic Minerals, except Fuels (except facilities in SIC	14xx
Codes must apply for the Sand and Gravel General Permit: 1411 -; 1422 1423 1429	
1442 - 1446 1445; 1459; 1499 -	
Food and Kindred Products	20xx
Tobacco Products	21xx
Textile Mill Products	22xx
Apparel and Other Finished Products Made from Fabrics and Similar Material	23xx
Lumber and Wood Products	24xx
Furniture and Fixtures	25xx
Paper and Allied Products	26xx
Printing, Publishing and Allied Industries	27xx
Chemicals and Allied Products	28xx
Petroleum Refining and Related Industries	29xx
Rubber and Miscellaneous Products	30xx
Leather and Leather Products	31xx
Stone, Clay, Glass, and Concrete Products	32xx

Industrial Activities	SIC Code
Primary Metal Industries	33xx
Fabricated Metal Products	34xx
Industrial and Commercial Machinery and Computer Equipment	35xx
Electronic and Other Electrical Equipment and Components	36xx
Transportation Equipment	37xx
Measuring, Analyzing, and Controlling Instruments; Photographic, Medical, and Optical Goods; Watches and Clocks	38xx
Miscellaneous Manufacturing Industries	39xx
Farm Product Storage	4221
Refrigerated Storage	4222
General Storage	4225
Recycling facilities involved in the recycling of materials, including but not limited to, metal scrap yards, battery reclaimers, salvage yards, auto recyclers, and automobile junkyards.	5015 and 5093
Steam Electric Power Generation, including coal handling sites	N/A
Active <i>landfills</i> , including, but not limited to, wood waste and inert <i>landfills</i> , transfer stations, open dumps, compost facilities, and <i>land application sites</i> , except as described in S1.C.6 or C.7.	4953
Hazardous waste treatment, storage, and disposal (TSD) facilities, and recycling facilities regulated under Chapter 173-303 WAC.	N/A
Treatment works treating domestic sewage, or any other sewage sludge, or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the <i>facility</i>) with the design flow capacity of 1 million gallons per day (MGD) or more, or required to have a pretreatment program under 40 CFR §403.	4952
Transportation facilities which have <i>vehicle maintenance</i> shops, <i>material handling</i> facilities, equipment cleaning operations, or airport deicing operations:	
Railroad Transportation	40xx
Local and Suburban Transit and Interurban Highway Passenger Transportation	41xx
Motor Freight Transportation (except SIC 4221–25)	42xx
United States Postal Service	42xx 43xx
Water Transportation	44xx
Air Transportation	45xx
Petroleum Bulk Stations and Terminals	5171

- 2. Any facility that has an existing National Pollutant Discharge Elimination System (NPDES) permit which does not address all stormwater discharges associated with industrial activity [40 CFR Subpart 122.26(b)(14)] shall obtain permit coverage.
- 3. Any *inactive facility* which is listed under 40 CFR Subpart 122.26(b)(14) where *significant materials* remain onsite and are exposed to *stormwater* shall obtain permit coverage.

B. Significant Contributors of Pollutants

Ecology may require a facility to obtain coverage under this permit if Ecology determines the facility:

- 1. Is a significant contributor of pollutants to waters of the state, including ground water;
- 2. May reasonably be expected to cause a violation of any water quality standard; or
- 3. Conducts *industrial activity*, or has a SIC code, with *stormwater* characteristics similar to any *industrial activity* or SIC code listed in Table 1 in S1.A1.

C. Facilities Not Required to Obtain Coverage

Ecology does not require the types of facilities listed below to obtain coverage under this permit, unless determined to be a *significant contributor of pollutants*.

- 1. Industrial facilities that submit an *application* and qualify for a Conditional "No Exposure" Exemption. (Condition S1.F)
- 2. Industrial facilities that *discharge stormwater* only to a municipal *combined sewer* or *sanitary sewer*. *Discharge* of stormwater to sanitary or *combined sewers* shall only occur as authorized by the municipal sewage authority.
- 3. Industrial facilities that *discharge stormwater* only to groundwater (e.g., on-site infiltration) with no *discharge* to *surface waters of the state* under any condition.
- 4. Office buildings and/or administrative parking lots from which *stormwater* does not commingle with stormwater from areas associated with *industrial activity*.
- 5. Any part of a *facility* with a *discharge* that is in compliance with the instructions of an On-Scene-Coordinator pursuant to 40 CFR part 300 (The National Oil and Hazardous Substances Pollution Contingency Plan) or 33 CFR 153.10(e) (Pollution by Oil and Hazardous Substances), in accordance with 40 CFR 122.3(d).
- 6. Any *land application site* used for the beneficial use of industrial or municipal wastewater for agricultural activities or when applied for landscaping purposes at agronomic rates.
- 7. Any farmland, domestic garden, or land used for sludge management where domestic sewage sludge (biosolids) is beneficially reused (nutrient builder or soil conditioner) and which is not physically located in the confines of domestic sewage treatment

works, or areas that are in compliance with Section 405 (Disposal of Sewage Sludge) of the *Clean Water Act (CWA)*.

- 8. Any inactive coal mining operation if:
 - a. The performance bond issued to the *facility* by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released from applicable state or federal reclamation requirements after December 17, 1990.
 - b. The mine does not have a *discharge* of *stormwater* that comes in contact with any overburden, raw material, intermediate products, finished products, byproducts, or waste products located on the site of the *facility*.
- 9. Inactive mining, inactive oil and gas operations, or inactive *landfills* where neither an owner nor an operator can be identified.
- 10. Closed *landfills* that are capped and stabilized, in compliance with Chapter 173-304 WAC, and in which no *significant materials* or industrial *pollutants* remain exposed to *stormwater*. Permittee's with existing coverage may submit a *Notice of Termination* in accordance with Special Condition S13.A.1.

D. Facilities Excluded from Coverage

Ecology will not cover the following facilities or activities under this permit:

1. Any part of a *facility* that has a *stormwater discharge* subject to *stormwater* Effluent Limitations Guidelines, New Source Performance Standards (NSPS) Under *40 CFR* Subchapter N, or Toxic Pollutant Effluent Standards under *40 CFR* Subchapter D Part 129; these facilities must apply for NPDES permit coverage in an individual or industry-specific *general permit* for those *stormwater discharges*.

Below is a list of categories of industries specified in 40 CFR Subchapter N for which at least one subpart includes stormwater effluent limitations guidelines or NSPS. Industries included in this list should review the Subchapter N guidelines to determine if they are subject to a stormwater effluent limitation guideline for activities which they perform at their site.

40 CFR 411 Cement manufacturing	40 CFR 423 Steam electric power generating
40 CFR 412 Feedlots	40 CFR 434 Coal mining
40 CFR 418 Fertilizer manufacturing	40 CFR 436 Mineral mining and processing
40 CFR 419 Petroleum refining	40 CFR 440 Ore mining and dressing
40 CFR 422 Phosphate manufacturing	40 CFR 443 Paving and roofing materials (tars
* '	& asphalt)

Facilities discharging any of the following toxic *pollutants*, which are limited by effluent standards in 40 CFR Subchapter D Part 129: Aldrin/Dieldrin; DDT; Endrin; Toxaphene; Benzidine; or Polychlorinated Biphenyls (PCBs); these facilities shall obtain coverage under an individual NPDES permit.

2. Nonpoint source silvicultural activities with natural *runoff* that are excluded in 40 CFR Subpart 122.27.

- 3. Facilities located on federal land or are federally owned or operated.
- 4. Facilities located on Tribal lands or facilities that *discharge stormwater* to receiving waters subject to *water quality standards* of Indian Tribes, including portions of the Puyallup River and other waters on trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians Reservation.
- 5. Any facility authorized to discharge stormwater associated with industrial activity under an existing NPDES individual or other general permit.
- 6. All *construction activities*. Operators of these construction activities shall seek coverage under the Construction Stormwater General Permit or an individual NPDES permit for *stormwater* associated with *construction activity*.
- 7. Facilities that *discharge* to a water body with a *control plan*, unless this *general permit* adequately provides the level of protection required by the *control plan*.
- 8. New dischargers to a water body listed pursuant to Section 303(d) of the CWA, unless the Permittee meets the requirements of Condition S6.B.
- 9. Hazardous waste landfills subject to 40 CFR Part 445, Subpart A.

E. Discharges to Ground

- 1. For sites that *discharge* to both surface water and *ground water*, the terms and conditions of this permit shall apply to all *ground water discharges*.
- 2. Facilities that *discharge* to *ground water* through an *underground injection control well* shall comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

F. Conditional "No Exposure" Exemption

- 1. Any *industrial activity* identified for coverage under Condition S1.A. that is eligible for a "No Exposure" exemption from the permit under 40 CFR 122.26 (g), may submit a No Exposure Certification Form to *Ecology*, either in writing or electronically.
 - a. A Permittee is automatically granted a No Exposure exemption 90 days from *Ecology*'s receipt of a complete and accurate No Exposure Certification Form, unless *Ecology* informs the applicant in writing or electronically within 90 days that it has denied or approved the request.
 - b. *Ecology* will automatically terminate permit coverage when it grants the No Exposure exemption to a permitted *facility*.
 - c. Facilities which are granted a No Exposure exemption must submit a No Exposure Certification Form to *Ecology* once every five years, or by October 1, 2013, whichever is earlier.
 - d. No Exposure exemptions are conditional. If there is a change at the *facility* that results in the exposure of industrial activities or materials to *stormwater*, the *facility* is required to immediately apply for and obtain a permit.

S2. APPLICATION FOR COVERAGE

A. Obtaining Permit Coverage

1. Permitted Facilities

Permittees with coverage under the existing industrial *stormwater general permit* (effective date Nov 15, 2008) are automatically covered under this permit unless otherwise notified by *Ecology*.

2. Unpermitted Facilities

Unpermitted facilities that require coverage under this permit shall submit a complete and accurate permit *application* to *Ecology* as follows:

a. Existing Facilities

- i. Unpermitted existing facilities that require coverage under this permit shall submit a complete and accurate permit *application* to *Ecology*.
- ii. Existing facilities are facilities in operation prior to the effective date of this permit, January 1, 2010.

b. New Facilities

New facilities are facilities that begin operation on or after the effective date of this permit, January 1, 2010. All unpermitted new facilities shall:

- i. Submit a complete and accurate permit *application* to *Ecology* at least 60 days before the commencement of *stormwater discharge* from the *facility*.
- ii. The *application* shall include certification that the *facility* has met the applicable public notice and *State Environmental Policy Act (SEPA)* requirements in WAC 173-226-200(f).

B. Modification of Permit Coverage

A Permittee anticipating a *significant process change*, or otherwise requesting a modification of permit coverage, shall submit a complete Modification of Coverage Form to *Ecology*. The Permittee shall:

- 1. Apply for modification of coverage at least 60 days before implementing a *significant* process change; or by June 1st prior to a Corrective Action deadline, if requesting a Level 2 or 3 time extension or waiver request per Condition S8.B-D.
- 2. Complete the public notice requirements in WAC 173-226-130(5) as part of a complete *application* for modification of coverage.
- 3. Comply with SEPA as part of a complete *application* for modification of coverage if undergoing a *significant process change*.

C. Permit Coverage or Permit Modification Timeline

- 1. If the applicant does not receive notification from *Ecology*, permit coverage or modification of coverage automatically commences on whichever of the following dates occurs last:
 - a. The 31st day following receipt by *Ecology* of a completed *application* for coverage or modification of coverage form.
 - b. The 31st day following the end of a 30-day public comment period.
 - c. The effective date of the *general permit*.
- 2. Ecology may need additional time to review the application:
 - a. If the application is incomplete.
 - b. If it requires additional site-specific information.
 - c. If the public requests a public hearing.
 - d. If members of the public file comments.
 - e. When more information is necessary to determine whether coverage under the *general permit* is appropriate.
- 3. When *Ecology* needs additional time:
 - a. *Ecology* will notify the applicant in writing within 30 days and identify the issues that the applicant must resolve before a decision can be reached.
 - b. *Ecology* will submit the final decision to the applicant in writing. If *Ecology* approves the *application* for coverage/modification, coverage begins the 31st day following approval, or the date the approval letter is issued, whichever is later.

D. Transfer of Permit Coverage

Coverage under this *general permit* shall automatically transfer to a *new discharger*, if all of the following conditions are met:

- 1. The Permittee (existing *discharger*) and *new discharger* submit to *Ecology* a complete, written, signed agreement (Transfer of Coverage Form) containing a specific date for transfer of permit responsibility, coverage, and liability.
- 2. The type of industrial activities and practices remain substantially unchanged.
- 3. *Ecology* does not notify the Permittee of the need to submit a new *application* for coverage under the *general permit* or for an individual permit pursuant to Chapters 173-216, 173-220, and 173-226 WAC.
- 4. *Ecology* does not notify the existing *discharger* and *new discharger* of its intent to revoke coverage under the *general permit*. The transfer is effective on the date specified in the written agreement unless *Ecology* gives this notice.

S3. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

A. General Requirements

- 1. All Permittees and applicants for coverage under this permit shall develop and implement a SWPPP for the permitted *facility* as follows:
- 2. The SWPPP shall specify the Best Management Practices (BMPs) necessary to:
 - a. Provide all known, available, and reasonable methods of prevention, control, and treatment (AKART) of stormwater pollution.
 - b. Ensure the *discharge* does not cause or contribute to a violation of the *Water Quality Standards*.
 - c. Comply with applicable federal technology-based treatment requirements under 40 CFR 125.3.
- 3. Proper Selection and Use of Stormwater Management Manuals (SWMM):

BMPs shall be consistent with:

- a. Stormwater Management Manual for Western Washington (2005 edition), for sites west of the crest of the Cascade Mountains.
- b. Stormwater Management Manual for Eastern Washington (2004 edition), for sites east of the crest of the Cascade Mountains.
- c. Revisions to the manuals in S3.A.3. a & b., or other *stormwater* management guidance documents or manuals which provide an equivalent level of *pollution* prevention, that are approved by *Ecology* and incorporated into this permit in accordance with the permit modification requirements of WAC 173-220-190. For purposes of this section, the documents listed in Appendix 10 of the Phase I Municipal Stormwater Permit are hereby incorporated into this permit.
- d. Documentation in the SWPPP that the BMPs selected are *demonstrably* equivalent to practices contained in stormwater technical manuals approved by *Ecology*, including the proper selection, implementation, and maintenance of all applicable and appropriate *best management practices* for on-site *pollution* control.

4. Update of the SWPPP

- a. The Permittee shall modify the SWPPP if the owner/operator or the applicable local or state regulatory authority determines during inspections or investigations that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing *pollutants* in *stormwater* discharges from the site. The Permittee shall modify the SWPPP:
 - i. As necessary to include additional or modified BMPs designed to correct problems identified.
 - ii. To correct the deficiencies identified in writing from *Ecology* within 30 days of notice.

b. The Permittee shall modify the SWPPP whenever there is a change in design, construction, operation, or maintenance at the *facility* that significantly changes the nature of *pollutants* discharged in *stormwater* from the *facility*, or significantly increases the quantity of pollutants discharged.

5. Other Pollution Control Plans

The Permittee may incorporate by reference applicable portions of plans prepared for other purposes at their *facility*. Plans or portions of plans incorporated by reference into a SWPPP become enforceable requirements of this permit and must be available along with the SWPPP as required in S9.F. A *Pollution* Prevention Plan prepared under the Hazardous Waste Reduction Act, Chapter 70.95C RCW, is an example of such a plan.

6. Signatory Requirements

The Permittee shall sign and certify all SWPPPs in accordance with General Condition G2, each time it revises or modifies a SWPPP to comply with Conditions S3.A.4 (Update of the SWPPP), S7 (Inspections) or S8 (Corrective Actions). A SWPPP Certification Form is contained in Appendix 3 of this permit.

B. Specific SWPPP Requirements

The SWPPP shall contain a site map, a detailed assessment of the *facility*, a detailed description of the BMPs, Spill Prevention and Emergency Cleanup Plan, and a sampling plan. The Permittee shall identify any parts of the SWPPP which the *facility* wants to claim as Confidential Business Information.

- 1. The site map shall identify:
 - a. The scale or include relative distances between significant structures and drainage systems.
 - b. Significant features.
 - c. The *stormwater* drainage and *discharge* structures and identify, by name, any other party other than the Permittee that owns any *stormwater* drainage or discharge structures.
 - d. The *stormwater* drainage areas for each *stormwater discharge* point off-site (including discharges to *ground water*) and assign a unique identifying number for each discharge point.
 - e. Each sampling location by unique identifying number.
 - f. Paved areas and buildings.
 - g. Areas of *pollutant* contact (actual or potential) associated with specific industrial activities.
 - h. Conditionally approved non-stormwater discharges (Condition S5.D).
 - i. Surface water locations (including wetlands and drainage ditches).
 - i. Areas of existing and potential soil *erosion* (in a *significant amount*).

- k. Vehicle maintenance areas.
- 1. Lands and waters adjacent to the site that may be helpful in identifying *discharge* points or drainage routes.
- 2. The *facility* assessment shall include a description of the *facility*; an inventory of *facility* activities and equipment that contribute to or have the potential to contribute any *pollutants* to *stormwater*; and, an inventory of materials that contribute to or have the potential to contribute pollutants to *stormwater*.
 - a. The facility description shall describe:
 - i. The industrial activities conducted at the site.
 - ii. Regular business hours and seasonal variations in business hours or industrial activities.
 - iii. The general layout of the *facility* including buildings and storage of raw materials, and the flow of goods and materials through the *facility*.
 - b. The inventory of industrial activities shall identify all areas associated with industrial activities (see Table 1) that have been or may potentially be sources of *pollutants*, including, but not limited to, the following:
 - i. Loading and unloading of dry bulk materials or liquids.
 - ii. Outdoor storage of materials or products.
 - iii. Outdoor manufacturing and processing.
 - iv. On-site dust or particulate generating processes.
 - v. On-site waste treatment, storage, or disposal.
 - vi. Vehicle and equipment fueling, maintenance, and/or cleaning (includes washing).
 - vii. Roofs or other surfaces exposed to *air emissions* from a manufacturing building or a process area.
 - viii. Roofs or other surfaces composed of materials that may be mobilized by *stormwater* (e.g., galvanized roofs, galvanized fences, etc.).
 - c. The inventory of materials shall list:
 - i. The types of materials handled at the site that potentially may be exposed to precipitation or *runoff* and could result in *stormwater pollution*.
 - ii. A short narrative for each material describing the potential of the *pollutant* to be present in *stormwater* discharges. The Permittee shall update this narrative when data become available to verify the presence or absence of these pollutants.
 - iii. A narrative description of any potential sources of *pollutants* from past activities, materials and spills that were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to *stormwater*. Include the

method and location of on-site storage or disposal. List significant spills and significant leaks of toxic or hazardous pollutants.

- 3. The SWPPP shall identify specific individuals by name or by title within the organization (*pollution* prevention team) whose responsibilities include: SWPPP development, implementation, maintenance, and modification.
- 4. Best Management Practices (BMPs)
 - a. General BMP Requirements
 - The Permittee shall describe each BMP selected to eliminate or reduce the potential to contaminate *stormwater* and prevent violations of *water quality standards*.
 - b. No later than July 1, 2010, the Permittee shall include each of the following mandatory BMPs in the SWPPP and implement the BMPs. The Permittee may omit individual BMPs if site conditions render the BMP unnecessary, infeasible, or the Permittee provides alternative and equally effective BMPs; if the Permittee clearly justifies each BMP omission in the SWPPP. Prior to July 1, 2010, the Permittee shall implement the BMP requirements of the previous Industrial *Stormwater General Permit*, or Condition S3.B.4 of this permit.
 - i. Operational Source Control BMPs
 - 1) The SWPPP shall include the *Operational Source Control BMPs* listed as "applicable" in *Ecology*'s SWMMs, or other guidance documents or manuals approved in accordance with S3.A.3.c.
 - 2) Good Housekeeping: The SWPPP shall include BMPs that define ongoing maintenance and cleanup, as appropriate, of areas which may contribute *pollutants* to *stormwater* discharges. The SWPPP shall include the schedule/frequency for completing each housekeeping task, based upon *industrial activity*, sampling results and observations made during inspections. The Permittee shall:
 - a) Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated *pollutants* a minimum of once per quarter.
 - b) Identify and control all on-site sources of dust to minimize *stormwater* contamination from the deposition of dust on areas exposed to precipitation.
 - c) Inspect and maintain bag houses monthly to prevent the escape of dust from the system. Immediately remove any accumulated dust at the base of exterior bag houses.
 - d) Keep all dumpsters under cover or fit with a lid that must remain closed when not in use.
 - 3) <u>Preventive Maintenance</u>: The SWPPP shall include BMPs to inspect and maintain the *stormwater* drainage, source controls, treatment systems (if

any), and plant equipment and systems that could fail and result in contamination of *stormwater*. The SWPPP shall include the schedule/frequency for completing each maintenance task. The Permittee must:

- a) Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe.
- b) Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and *vehicles* out of service or prevent leaks from spilling on the ground until repaired.
- c) Immediately clean up spills and leaks (e.g., using absorbents, vacuuming, etc.) to prevent the *discharge* of *pollutants*.
- 4) Spill Prevention and Emergency Cleanup Plan (SPECP): The SWPPP shall include a SPECP that includes BMPs to prevent spills that can contaminate *stormwater*. The SPECP shall specify BMPs for *material handling* procedures, storage requirements, cleanup equipment and procedures, and spill logs, as appropriate. The Permittee shall:
 - a) Store all chemical liquids, fluids, and petroleum products, on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater.
 - b) Prevent precipitation from accumulating in containment areas with a roof or equivalent structure or include a plan on how it will manage and dispose of accumulated water if a containment area cover is not practical.
 - c) Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. At a minimum, spill kits shall include:
 - i) Oil absorbents capable of absorbing 15 gallons of fuel.
 - ii) A storm drain plug or cover kit.
 - iii) A non-water containment boom, a minimum of 10 feet in length with a 12 gallon absorbent capacity.
 - iv) A non-metallic shovel.
 - v) Two five-gallon buckets with lids.
 - d) Not lock shut-off fueling nozzles in the open position. Do not "top-off" tanks being refueled.

- e) Block, plug or cover storm drains that receive *runoff* from areas where fueling, during fueling.
- f) Use drip pans or equivalent containment measures during all petroleum transfer operations.
- g) Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone *vehicles* and equipment awaiting maintenance to protected areas).
- h) Use drip pans and absorbents under or around leaky *vehicles* and equipment or store indoors where feasible. Drain fluids from equipment and *vehicles* prior to on-site storage or disposal.
- Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved.
- 5) <u>Employee Training</u>: The SWPPP shall include BMPs to provide SWPPP training for employees who have duties in areas of industrial activities subject to this permit. At a minimum, the training plan shall include:
 - a) The content of the training,
 - i) An overview of what is in the SWPPP.
 - How employees make a difference in complying with the SWPPP and preventing contamination of *stormwater*.
 - iii) Spill response procedures, good housekeeping, maintenance requirements, and material management practices.
 - b) How the Permittee will conduct training.
 - c) The frequency/schedule of training. The Permittee shall train employees annually, at a minimum.
 - d) A log of the dates on which specific employees received training.
- 6) <u>Inspections and Recordkeeping</u>: The SWPPP shall include documentation of procedures to ensure compliance with permit requirements for inspections and recordkeeping. At a minimum, the SWPPP shall:
 - a) Identify *facility* personnel who will inspect designated equipment and *facility* areas as required in Condition S7.
 - b) Contain a visual inspection report or check list that includes all items required by Condition S7.C.

- c) Provide a tracking or follow-up procedure to ensure that a report is prepared and any appropriate action taken in response to visual inspections.
- d) Define how the Permittee will comply with signature requirements and records retention identified in Special Condition S9, Reporting and Recordkeeping Requirements.
- e) Include a certification of compliance with the SWPPP and permit for each inspection using the language in S7.C.1.c.
- 7) <u>Illicit Discharges</u>: The SWPPP shall include measures to identify and eliminate the discharge of process wastewater, domestic wastewater, noncontact cooling water, and other illicit discharges, to stormwater sewers, or to surface waters and ground waters of the state. The Permittee can find BMPs to identify and eliminate illicit discharges in Volume IV of Ecology's SWMM for Western Washington and Chapter 8 of the SWMM for Eastern Washington.

Water from washing *vehicles* or equipment, steam cleaning and/or pressure washing is considered *process wastewater*. The Permittee must not allow this process wastewater to comingle with *stormwater* or enter storm drains; and must collect in a tank for off-site disposal, or *discharge* it to a *sanitary sewer*, with written approval from the local sewage authority.

ii. Structural Source Control BMPs

- 1) The SWPPP shall include the *Structural Source Control BMPs* listed as "applicable" in *Ecology*'s SWMMs, or other guidance documents or manuals approved in accordance with S3.A.3.c.
- 2) The SWPPP shall include BMPs to minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings.

Permittees shall:

- a) Use grading, berming, or curbing to prevent *runoff* of contaminated flows and divert run-on away from these areas.
- b) Perform all cleaning operations indoors, under cover, or in bermed areas that prevent *stormwater runoff* and run-on and also that capture any overspray.
- c) Ensure that all washwater drains to a collection system that directs the washwater to further treatment or storage and not to the *stormwater drainage system*.

iii. Treatment BMPs

The Permittee shall:

- 1) Use *Treatment BMPs* consistent with the applicable documents referenced in Condition S3.A.3.
- 2) Employ oil/water separators, booms, skimmers or other methods to eliminate or minimize oil and grease contamination of *stormwater* discharges.
- 3) Obtain *Ecology* approval before beginning construction/installation of all *treatment BMP*s that include the addition of chemicals to provide treatment.
- iv. Stormwater Peak Runoff Rate and Volume Control BMPs

Facilities with *new development* or *redevelopment* shall evaluate whether flow control BMPs are necessary to satisfy the state's AKART requirements, and prevent violations of water quality standards. If flow control BMPs are required, they shall be selected according to S3.A.3.

v. Erosion and Sediment Control BMPs

The SWPPP shall describe the BMPs necessary to prevent the *erosion* of soils and other earthen materials (crushed rock/gravel, etc.) and prevent off-site *sedimentation* and violations of *water quality standards*. The Permittee shall implement and maintain:

- 1) Sediment control BMPs such as detention or retention ponds or traps, vegetated filter strips, bioswales, or other permanent sediment control BMPs to minimize sediment loads in stormwater discharges.
- 2) Filtration BMPs to remove solids from catch basins, sumps or other *stormwater* collection and conveyance system components (filter socks, modular canisters, sand filtration, centrifugal separators, etc.).

5. Sampling Plan

The SWPPP shall include a sampling plan. The plan shall:

- a. Identify points of *discharge* to surface water, *storm sewers*, or discrete *ground* water infiltration locations, such as dry wells or *detention* ponds.
- b. Include documentation of why each *discharge* point is not sampled per S4.B.2.c (if applicable):
 - i. Location of which *discharge* points the Permittee does not sample because the *pollutant* concentrations are substantially identical to a discharge point being sampled.
 - ii. General industrial activities conducted in the drainage area of each *discharge* point.
 - iii. Best Management Practices conducted in the drainage area of each outfall.

- iv. Exposed materials located in the drainage area of each *discharge* point that are likely to be significant contributors of *pollutants* to *stormwater discharges*.
- v. Impervious surfaces in the drainage area that could affect the percolation of *stormwater runoff* into the ground (e.g., asphalt, crushed rock, grass, etc.).
- vi. Reasons why the Permittee expects the *discharge* points to discharge substantially identical effluents.
- c. Identify each sampling location by its unique identifying number such as A1, A2, etc.
- d. Identify staff responsible for conducting *stormwater* sampling.
- e. Specify procedures for sample collection and handling.
- f. Specify procedures for sending samples to a laboratory.
- g. Identify parameters for analysis, holding times and preservatives, laboratory *quantitation levels*, and analytical methods.
- h. Specify the procedure for submitting results to *Ecology*.

S4. GENERAL SAMPLING REQUIREMENTS

A. General Requirements

The Permittee shall conduct sampling of *stormwater* in accordance with this permit and the SWPPP.

B. Sampling Requirements

- 1. Sample Timing and Frequency
 - a. The Permittee shall sample the *discharge* from each designated location at least once per quarter:

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1<sup>st</sup> Quarter = January, February, and March
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2nd Quarter = April, May, and June

3rd Ouarter = July, August, and September

4th Quarter = October, November, and December

- b. Permittees shall sample the *stormwater discharge* from the first fall storm event each year. "First fall storm event" means the first time after October 1st of each year that precipitation occurs and results in a *stormwater discharge* from a *facility*.
- c. Permittees shall collect samples within the first 12 hours of *stormwater discharge* events. If it is not possible to collect a sample within the first 12 hours of a *stormwater* discharge event, the Permittee must collect the sample as soon as practicable after the first 12 hours, and keep documentation with the sampling records (Condition S4.B.3) explaining why they could not collect samples within the first 12 hours.

- d. The Permittee shall obtain *representative samples*, which may be a single grab sample, a time-proportional sample, or a flow-proportional sample.
- e. Permittees need not sample outside of *regular business hours*, during unsafe conditions, or during quarters where there is no discharge, but shall submit a Discharge Monitoring Report each reporting period (Condition S9.A).

2. Sample Location(s)

- a. The Permittee shall designate sampling location(s) at the point(s) where it discharges *stormwater* associated with *industrial activity* off-site.
- b. The Permittee is not required to sample on-site discharges to ground (e.g., infiltration, etc.) or *sanitary sewer* discharges, unless specifically required by *Ecology* (Condition G12).
- c. The Permittee shall sample each distinct point of *discharge* off-site except as otherwise exempt from monitoring as a "substantially identical outfall" per S3.B.5.b. The Permittee is required to monitor only one of the "substantially identical outfalls" if two or more outfalls discharge substantially identical effluents (based on similar industrial activities and site conditions).
- d. The exception to sampling each point of *discharge* in S4.B.2.c does not apply to any point of discharge subject to numeric effluent limitations (Conditions S5.C, S6.C & S6.D).

3. Sample Documentation

For each *stormwater* sample taken, the Permittee shall record the following information and retain it on-site for *Ecology* review:

- a. Sample date.
- b. Sample time.
- c. A notation describing if the Permittee collected the sample within the first 30 minutes of *stormwater* discharge events.
- d. An explanation of why it could not collect a sample within the first 30 minutes of a stormwater discharge event, if it was not possible.
- e. Sample location (using SWPPP identifying number).
- f. Method of sampling, and method of sample preservation, if applicable.
- g. Individual who performed the sampling.

4. Laboratory Documentation

The Permittee shall retain laboratory reports on-site for *Ecology* review and shall ensure that all laboratory reports providing data for all parameters include the following information:

- a. Date of analysis.
- b. Parameter name.
- c. CAS number, if applicable.
- d. Analytical method(s).
- e. Individual who performed the analysis.
- f. Method detection limit (MDL).
- g. Laboratory quantitation level (QL) achieved by the laboratory.
- h. Reporting units.
- i. Sample result.
- j. Quality assurance/quality control data.
- 5. The Permittee shall maintain the original records onsite and make them available to *Ecology* upon request.
- 6. The Permittee may suspend sampling for one or more parameters (other than "visible oil sheen") based on consistent attainment of *benchmark* values when:
 - a. Four consecutive quarterly samples, collected after the effective date of this permit, demonstrate a reported value equal to or less than the *benchmark* value; or for pH, within the range of 5.0 9.0.
 - b. For purposes of tallying "consecutive quarterly samples":
 - i. Do not include any quarters in which the Permittee did not collect a sample, but should have (e.g., discharge(s) occurred during normal working hours, and during safe conditions; but no sample was collected during the entire quarter). If this occurs, the tally of consecutive quarterly samples is reset to zero.
 - ii. Do not include any quarters in which the Permittee did not collect a sample because there was no *discharge* during the quarter (or the discharges during the quarter occurred outside normal working hours or during unsafe conditions). These quarters are not included in the calculation of four consecutive quarters, but do not cause the tally to be reset; i.e., they are skipped over.
 - c. Permittees monitoring more than once per quarter shall average all of the monitoring results for each parameter (except pH and "visible oil sheen") and compare the average value to the *benchmark* value.

- 7. A Permittee who has a *significant process change* shall not use previous sampling results to demonstrate consistent attainment.
- 8. Suspension of sampling based on consistent attainment does not apply to *pollutant* parameters subject to numeric effluent limits based on federal Effluent Limitation Guidelines (Condition S5.C) or Section 303(d) of the *Clean Water Act* (Condition S6).

C. Analytical Procedures for Sampling Requirements

The Permittee shall ensure that analytical methods used to meet the sampling requirements specified in this permit conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136.

D. Laboratory Accreditation

- 1. The Permittee shall ensure that all analytical data required by *Ecology* is prepared by a laboratory registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC.
- 2. *Turbidity* and pH are exempt from this requirement, unless the laboratory must be registered or accredited for any other parameter.

S5. BENCHMARKS, EFFLUENT LIMITATIONS AND SPECIFIC SAMPLING REQUIREMENTS

A. Benchmarks and Sampling Requirements

- 1. Permittees shall sample their *stormwater discharges* as specified in Condition S4 and as specified in Table 2.
- 2. Additional sampling and/or requirements apply to specific industrial categories (S5.B), and facilities subject to effluent limitation guidelines (S5.C), and certain discharges to impaired waterbodies (S6).
- 3. If a Permittee's discharge exceeds a *benchmark* listed in Table 2, the Permittee shall take the actions specified in Condition S8. Permittees sampling more than once per quarter shall average the sample results for each parameter (except pH and "visible oil sheen") and compare the average value to the *benchmark* to determine if the discharge has exceeded a *benchmark* value.

Table 2: Benchmarks and Sampling Requirements Applicable to All Facilities

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level ^a	Minimum Sampling Frequency b
Turbidity	NTU	25	EPA 180.1 Meter	0.5	1/quarter
pН	Standard Units	Between 5.0 and 9.0	Meter/Paper c	±0.5	1/quarter
Oil Sheen	Yes/No	No Visible Oil Sheen	N/A	N/A	1/quarter
Copper, Total	μg/L	Western WA: 14 Eastern WA: 32	EPA 200.8	2.0	l/quarter
Zinc, Total	μg/L	117	EPA 200.8	2.5	1/quarter

The Permittee shall ensure laboratory results comply with the *quantitation level* specified in the table. However, if a Permittee knows that an alternate, less sensitive method (higher detection level and *quantitation level*) from 40 CFR Part 136 is sufficient to produce measurable results in its effluent, it may use that method for analysis.

B. Additional Sampling Requirements for Specific Industrial Groups

- 1. In addition to the requirements in Table 2, all Permittees identified by an *industrial activity* in Table 3 shall sample *stormwater* discharges as specified in Condition S4 and in Table 3.
- 2. If a *discharge* exceeds a *benchmark* listed in Table 3, the Permittee shall take the actions specified in Condition S8. Permittees sampling more than once per quarter shall average the sample results for each parameter and compare the average value to the *benchmark* to determine if it the discharge has exceeded a *benchmark*.

b. 1/quarter means 1 sample taken each quarter, year-round.

^{c.} Permittees shall use either a calibrated pH meter or narrow-range pH indicator paper with a resolution not greater than \pm 0.5 SU.

Table 3: Additional Benchmarks and Sampling Requirements Applicable to Specific Industries

Parameter	Units	Benchmark	Analytical	Laboratory	Minimum
		Value	Method	Quantitation	Sampling
				Level ^a	Frequency b
1. Chemical and Al	lied Product	ts (28xx), Food and Kir	ndred Products	(20xx)	
BOD ₅	mg/L	30	EPA 405.1	2	1/quarter
	,		or		
			SM 5210B		`
Nitrate/Nitrite, as Nitrogen	mg/L	0.68	EPA 353.1	0.10	1/quarter
Phosphorus, Total	mg/L	2.0	EPA 365.1	0.10	1/quarter
	3xx) Meta	ls Mining (10xx), Auto	mobile Salvage	and Scran Recy	cling (5015
and 5093), Metals F			moone sarvage	and sorup recej	omig (5015
Lead, Total	μg/L	81.6	EPA 200.8	0.5	1/quarter
Total Petroleum	mg/L	10	NWTPH-Dx	0.1	1/quarter
Hydrocarbons (TPH)	8				4-1
	Treatment.	Storage and Disposal	Facilities and D	angerous Waste	Recyclers
		Resource Conservation			
Chemical	mg/L	120	SM5220-D	10	1/quarter
Oxygen Demand	Ü		(A) (A) (A) (A) (A)		
(COD)					
Ammonia, Total,	mg/L	2.1	SM4500-	0.3	1/quarter
as N			NH3- GH		
TSS	mg/L	100	SM2540-D	5	1/quarter
Arsenic, Total	μg/L	150	EPA 200.8	0.5	1/quarter
Cadmium, Total	μg/L	2.1	EPA 200.8	0.25	1/quarter
Cyanide, Total	μg/L	22	SM 4500-CN I	10	1/quarter
Lead, Total	μg/L	81.6	EPA 200.8	0.5	1/quarter
Magnesium,	μg/L	64	EPA 200.7	80	1/quarter
Total					
Mercury, Total	μg/L	1.4	EPA 1631E	0.0005	1/quarter
Selenium, Total	μg/L	5.0	EPA 200.8	1.0	1/quarter
Silver, Total	μg/L	3.8	EPA 200.8	0.2	1/quarter
Total Petroleum	mg/L	10	NWTPH-Dx	0.1	1/quarter
Hydrocarbons	* * *				
(TPH)					
4. Air Transportation				~ -	r
Ammonia	mg/L	2.1	SM4500- NH3- GH	0.3	1/quarter
BOD ₅	mg/L	30	EPA 405.1	2	1/quarter
A second			or SM 5210B		
COD	mg/L	120	EPA 410.2	5	1/quarter
Nitrate/Nitrite, as	mg/L	0.68	EPA 4500-	0.10	1/quarter
N	-		NO3-E/F/H		_

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level ^a	Minimum Sampling Frequency ^b					
5. Timber Product Industry (24xx), Paper and Allied Products (26xx)										
COD	mg/L	120	SM5220-D	10	1/quarter					
TSS	mg/L	100	SM2540-D	5	1/quarter					

- The Permittee shall ensure laboratory results comply with the *quantitation level* specified in the table. However, if a Permittee knows that an alternate, less sensitive method (higher detection level and *quantitation level*) from 40 CFR Part 136 is sufficient to produce measurable results in their effluent, that method may be used for analysis.
- b. 1/quarter means 1 sample taken each quarter, year-round.
- For airports where a single permittee, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, monitor these additional four parameters in those outfalls that collect *runoff* from areas where deicing activities occur (SIC 4512-4581).

C. Stormwater Discharges Subject to Effluent Limitation Guidelines

- 1. Permittees with discharges from the following activities shall comply with the effluent limits and monitor as specified in Condition S4 and Tables 4 and 5.
- 2. The *discharge* of the *pollutants* at a level more than that identified and authorized by this permit for these activities shall constitute a violation of the terms and conditions of this permit.
- 3. Permittees operating non-hazardous waste *landfills* subject to the provisions of 40 *CFR* Part 445 Subpart B shall not exceed the effluent limits³ listed in Table 4.

³ As set forth in 40 CFR Part 445 Subpart B, these numeric effluent limits apply to contaminated stormwater discharges from Municipal Solid Waste Landfills that have not been closed in accordance with 40 CFR 258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR Part 257 except for discharges from any of the following facilities:

⁽a) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

⁽b) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

⁽c) landfills operated in conjunction with CWT facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or (d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Table 4: Effluent Limits Applicable to Non-Hazardous Waste Landfills Subject to 40 CFR Part 445 Subpart B

Parameter	Units	Average Monthly ^a	Maximum Daily ^b	Analytical Method ^c	Laboratory Quantitation Level ^d	Minimum Sampling Frequency ^c
BOD_5	mg/L	37	140	EPA 405.1 or SM 5210B	2	1/quarter
TSS	mg/L	27	88	SM2540-D	5	1/quarter
Ammonia (total as N)	mg/L	4.9	10	SM4500- NH3-GH.	0.3	1/quarter
Alpha Terpineol	μg/L	16	33	EPA 625	5	1/quarter
Benzoic Acid	μg/L	71	120	EPA 625	50	1/quarter
p-Cresol (4- methylphenol)	μg/L	14	25	EPA 8270D	10 ug/L	1/quarter
Phenol	μg/L	15	26	EPA 625	4.0	1/quarter
Zinc, Total	μg/L	110	200	EPA 200.8	2.5	1/quarter
pН	SU	Between	6.0 and 9.0	Meter/Paper ^e	±0.1	1/quarter

Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the *discharge* value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured. If only one sample is taken during the calendar month, the average monthly effluent limitation applies to that sample. If only one sample is taken during the reporting period, the average monthly effluent limitation applies to that sample.

D. Conditionally Authorized Non-Stormwater Discharges

- 1. The categories and sources of non-*stormwater* discharges identified in Condition S5. D.2, below, are conditionally authorized, provided:
 - a. The *discharge* is otherwise consistent with the terms and conditions of this permit, including Condition S5, S6 and S10.

b. Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day; this does not apply to pH.

c. Or other equivalent EPA-approved method with the same or lower *quantitation level*.

The Permittee shall ensure laboratory results comply with the *quantitation level* specified in the table. However, if a Permittee knows that an alternate, less sensitive (higher detection level and *quantitation level*) from 40 CFR Part 136 method will provide measurable results in its effluent, it may use that method for analysis.

e 1/quarter means 1 sample taken each quarter, year-round.

- b. The Permittee conducts the following assessment for each non-stormwater discharge (except for S5.D.2.a & f) and documents the assessment in the SWPPP, consistent with Condition S3.B.2. The Permittee shall:
 - i. Identify each source.
 - ii. Identify the location of the discharge into the *stormwater* collection system.
 - iii. Characterize the discharge including estimated flows or flow volume, and likely *pollutants* which may be present.
 - iv. Evaluate and implement available and reasonable *source control BMPs* to reduce or eliminate the discharge.
 - v. Evaluate compliance of the *discharge* with the state *water quality* standards.
 - vi. Identify appropriate BMPs for each discharge to control *pollutants* and or flow volumes.
- 2. Conditionally authorized non-stormwater discharges include:
 - a. Discharges from fire fighting activities.
 - b. Fire protection system flushing, testing, and maintenance.
 - c. Discharges of potable water including water line flushing, provided that water line flushing must be de-chlorinated prior to discharge.
 - d. Uncontaminated air conditioning or compressor condensate.
 - e. Landscape watering and irrigation drainage.
 - f. Uncontaminated ground water or spring water.
 - g. Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents.
 - h. Incidental windblown mist from cooling towers that collects on rooftops or areas adjacent to the cooling tower. This does not include intentional discharges from cooling towers such as piped cooling tower blow down or drains.

E. Prohibited Discharges

Unless authorized by a separate NPDES or state waste *discharge* permit, the following discharges are prohibited:

- 1. The discharge of *process wastewater* is not authorized. *Stormwater* that commingles with *process wastewater* is considered *process wastewater*.
- 2. *Illicit discharges* are not authorized by this permit. Conditionally authorized non-stormwater discharges in compliance with Condition S5.D are not *illicit discharges*.

F. General Prohibitions

Permittees shall manage *stormwater* to prevent the *discharge* of:

- 1. Synthetic, natural or processed oil or oil-containing products as identified by an oil sheen, and
- 2. Trash and floating debris.

S6. DISCHARGES TO 303(D)-LISTED OR TMDL WATERS

A. General Requirements for Discharges to 303(d)-listed Waters

Permittees with coverage under this permit that discharge to a 303(d)-listed water body shall conduct sampling and inspections in accordance with Conditions S4, S6, and S7.

B. Limits on Coverage for New Discharges to TMDL or 303(d)-listed Waters

Facilities that meet the definition of "new discharger" and discharge to a 303(d) listed waterbody are not eligible for coverage under this permit unless the facility:

- 1. Prevents all exposure to *stormwater* of the *pollutant*(s) for which the waterbody is impaired, and retains documentation of procedures taken to prevent exposure onsite with its SWPPP; or
- 2. Documents that the *pollutant*(s) for which the waterbody is impaired is not present at the *facility*, and retains documentation of this finding with the SWPPP; or
- 3. Provides *Ecology* with data to support a showing that the *discharge* is not expected to cause or contribute to an exceedance of a water quality standard, and retain such data onsite with its SWPPP. The *facility* must provide data and other technical information to *Ecology* sufficient to demonstrate:
 - a. For discharges to waters without an *EPA* approved or established *TMDL*, that the *discharge* of the *pollutant* for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; or
 - b. For discharges to waters with an *EPA* approved or established *TMDL*, that there are sufficient remaining wasteload allocations in an *EPA* approved or established *TMDL* to allow industrial stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

Facilities are eligible for coverage under this permit if *Ecology* issues permit coverage based upon an affirmative determination that the *discharge* will not cause or contribute to the existing impairment.

C. <u>Additional Sampling Requirements and Effluent Limits for Discharges to Certain 303(d)-listed Waters</u>

1. Beginning July 1, 2010, Permittees discharging to a 303(d)-listed water body that does not have an EPA-approved total maximum daily load (TMDL) shall comply with

the applicable sampling requirements and effluent limits in Table 5, unless a compliance schedule is requested and granted in accordance with S6.C.1.b&c.

- a. Facilities subject to these limits include, but may not be limited to, facilities listed in Appendix 4.
- b. For purposes of this condition, "applicable sampling requirements and effluent limits" means the sampling and effluent limits in Table 5 that correspond to the specific parameter(s) the receiving water is 303(d)-listed for at the time of permit coverage, or Total Suspended Solids (TSS) if the waterbody is 303(d)-listed for any sediment quality parameter at the time of permit coverage.
- c. Permittees may request a compliance schedule for relief from the July 1, 2010 deadline to comply with an applicable effluent limit in Condition S6.C.
 Permittees shall submit requests for compliance schedules in writing to *Ecology* no later than January 31, 2010 and shall include the company name, *facility* location, industrial *stormwater* permit number, and the reason for requesting a compliance schedule.
- d. *Ecology* will consider all compliance schedule requests submitted by January 31, 2010. If *Ecology* determines that a Permittee is unable to comply with the applicable effluent limits by July 1, 2010, *Ecology* will establish a compliance schedule to require compliance as soon as possible, and no later than twenty-four months, or two complete wet seasons, after the effective date of this permit. *Ecology* will send its decision regarding the request for compliance schedule to the Permittee no sooner than April 1, 2010.
- e. For purposes of this condition, "wet season" means Oct 1st through June 30th.

Table 5: Sampling and Effluent Limits Applicable to Discharges to 303(d)-listed Waters

		Effluent	Limit		Laboratory	
					Quantitation	Sampling
Parameter	Units	Fresh Water	Marine	Analytical Method ^a	Level ^b	Frequency
Turbidity	NTUs	25	25	EPA 180.1 Meter	0.5	1/quarter c
pH	SU	i	Between 7.0	Meter d	±0.5	1/quarter c
			and 8.5			
Fecal Coliform	# colonies/	h :	h h	SM 9222D	20 CFU/	1/quarter c
Bacteria	100 mL				100 mL	
TSS e	mg/L	30	30	SM2540-D	5	1/quarter c
Phosphorus, Total	mg/L	f	ſ	EPA 365.1	0.01	1/quarter c
Ammonia, total as	mg/L	f	f	SM 4500 NH ³ -GH	0.3	1/quarter c
N						
Copper, Total	μg/L	ľ	ſ	EPA 200.8	2.0	1/quarter c
Lead, Total	μg/L	ſ	f	EPA 200.8	0.5	1/quarter c
Mercury, Total	μg/L	2.1	1.8	EPA1631E	0.0005	1/quarter c
Zinc, Total	μg/L	ľ	ſ	EPA 200.8	2.5	1/quarter c
Pentachlorophenol	μg/L	9 ^g	f	EPA 625	1.0	1/quarter c

- ^a Or other equivalent method with the same reporting level.
- b. The Permittee shall ensure laboratory results comply with the quantitation level specified in the table.
- ^c 1/quarter means 1 sample taken each quarter, e.g., Q1 = Jan 1 March 31st, Q2 = April 1 June 30th, etc.
- d. Permittees shall use either a calibrated pH meter consistent with EPA 9040 or an approved state method.
- A Permittee who discharges to a water body 303(d)-listed for any sediment quality parameter shall sample the discharge for TSS.
- f. Site-specific effluent limitation will be assigned at the time of permit coverage.
- g. Based on a pH of 7.0.
- h. The effluent limit is the water recreation bacteria criteria (WAC 173-201A) applicable to the receiving waterbody.
- The effluent limit for a Permittee who discharges to a fresh water body 303(d)-listed for pH is: Between 6.0 and 8.5, if the 303(d)-listing is for high pH only; Between 6.5 and 9.0, if the 303(d)-listing is for low pH only; and Between 6.5 and 8.5 if the 303(d)-listing is for both low and high pH. All pH effluent limits are applied end-of-pipe.

D. Requirements for Discharges to Waters with Applicable TMDLs

- 2. The Permittee shall comply with applicable TMDL determinations. Applicable TMDLs or TMDL determinations are TMDLs which have been completed by the issuance date of this permit, or which have been completed prior to the date that the Permittee's application is received by Ecology, whichever is later. Ecology will list the Permittee's requirements to comply with this condition on the letter of permit coverage.
- 3. *TMDL* requirements associated with *TMDL*s completed after the issuance date of this permit only become effective if they are imposed through an administrative order issued by *Ecology*.

- 4. Where *Ecology* has established a *TMDL wasteload allocation* and sampling requirements for the Permittee's discharge, the Permittee shall comply with all requirements of the *TMDL* as listed in Appendix 5.
- 5. Where *Ecology* has established a *TMDL* general *wasteload allocation* for industrial *stormwater* discharges for a parameter present in the Permittee's discharge, but has not identified specific requirements, *Ecology* will assume the Permittee's compliance with the terms and conditions of the permit complies with the approved *TMDL*.
- 6. Where *Ecology* has not established a *TMDL wasteload allocation* for industrial *stormwater* discharges for a parameter present in the Permittee's discharge, but has not excluded these discharges, *Ecology* will assume the Permittee's compliance with the terms and conditions of this permit complies with the approved *TMDL*.
- 7. Where a *TMDL* for a parameter present in the Permittee's *discharge* specifically precludes or prohibits discharges of *stormwater* associated with *industrial activity*, the Permittee is not eligible for coverage under this permit.

S7. INSPECTIONS

A. Inspection Frequency and Personnel

- 1. The Permittee shall conduct and document visual inspections of the site each month.
- 2. The Permittee shall ensure that inspections are conducted by qualified personnel.

B. <u>Inspection Components</u>

Each inspection shall include:

- 1. Observations made at *stormwater* sampling locations and areas where *stormwater* associated with *industrial activity* is discharged off-site; or discharged to *waters of the state*, or to a *storm sewer* system that drains to *waters of the state*.
- 2. Observations for the presence of floating materials, visible oil sheen, discoloration, *turbidity*, odor, etc. in the *stormwater* discharge(s).
- 3. Observations for the presence of *illicit discharges* such as *domestic wastewater*, noncontact cooling water, or process wastewater (including leachate).
 - a. If an *illicit discharge* is discovered, the Permittee shall notify *Ecology* within seven days.
 - b. The Permittee shall eliminate the *illicit discharge* within 30 days.
- 4. A verification that the descriptions of potential *pollutant* sources required under this permit are accurate.
- 5. A verification that the site map in the SWPPP reflects current conditions.
- 6. An assessment of all BMPs that have been implemented, noting all of the following:
 - a. Effectiveness of BMPs inspected.
 - b. Locations of BMPs that need maintenance.

- c. Reason maintenance is needed and a schedule for maintenance.
- d. Locations where additional or different BMPs are needed and the rationale for the additional or different BMPs.

C. Inspection Results

- 1. The Permittee shall record the results of each inspection in an inspection report or checklist and keep the records on-site for *Ecology* review. The Permittee shall ensure each inspection report documents the observations, verifications and assessments required in S7.B and includes:
 - a. Time and date of the inspection.
 - b. Locations inspected.
 - c. Statements that, in the judgment of 1) the person conducting the site inspection, and 2) the person described in Condition G2.A, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and this permit.
 - d. A summary report and a schedule of implementation of the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.
 - e. Name, title, and signature of the person conducting site inspection; and the following statement: "I certify that this report is true, accurate, and complete, to the best of my knowledge and belief."
 - f. Certification and signature of the person described in Condition G2.A, or a duly authorized representative of the *facility*, in accordance with Condition G.2.B.

D. Reports of Non-Compliance

The Permittee shall prepare reports of non-compliance identified during an inspection in accordance with the requirements of Condition S9.E.

S8. CORRECTIVE ACTIONS

A. Implementation of Source Control and Treatment BMPs from Previous Permit

In addition to the Corrective Action Requirements of S8.B-D, Permittees shall implement any applicable Level 1, 2 or 3 Responses required by the previous Industrial Stormwater *General Permit*(s). Permittees shall continue to operate and/or maintain any source control or *treatment BMP*s related to Level 1, 2 or 3 Responses implemented prior to the effective date of this permit.

B. Level One Corrective Actions - Operational Source Control BMPs

Permittees that exceed any applicable benchmark value(s) in Table 2 or Table 3, shall complete a Level 1 Corrective Action for each parameter exceeded in accordance with the following:

- 1. Review the SWPPP and ensure that it fully complies with Permit Condition S3, and contains the correct BMPs from the applicable *Stormwater Management Manual*.
- 2. Make appropriate revisions to the SWPPP to include additional *Operational Source Control BMPs* with the goal of achieving the applicable *benchmark* value(s) in future discharges. The Permittee shall sign and certify the revised SWPPP in accordance with S3.A.6.
- 3. Summarize the Level 1 Corrective Actions in the Annual Report (Condition S9.B)
- 4. **Level One Deadline:** The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the applicable *Stormwater Management Manual* as soon as possible, but no later than the DMR due date for the quarter the *benchmark* was exceeded.

C. Level Two Corrective Actions - Structural Source Control BMPs

Permittees that exceed an applicable *benchmark* value (for a single parameter) for any two quarters during a calendar year shall complete a Level 2 Corrective Action in accordance with the following⁴:

- 1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
- 2. Make appropriate revisions to the SWPPP to include additional *Structural Source Control BMPs* with the goal of achieving the applicable *benchmark* value(s) in future discharges. The Permittee shall sign and certify the revised SWPPP in accordance with S3.A.6.
- 3. Summarize the Level 2 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B).
- 4. **Level 2 Deadline:** The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the applicable *Stormwater Management Manual* as soon as possible, but no later than September 30th the following year.
 - a. If installation of necessary *Structural Source Control BMPs* is not feasible by September 30th the following year, *Ecology* may approve additional time, by approving a *Modification of Permit Coverage*.
 - b. If installation of *Structural Source Control BMPs* is not feasible or not necessary to prevent discharges that may cause or contribute to a violation of a water quality standard, *Ecology* may waive the requirement for additional *Structural Source Control BMPs* by approving a *Modification of Permit Coverage*.
 - c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a *Modification of Coverage* form to *Ecology* in accordance with Condition S2.B, by June 1st prior to Level 2 Deadline. *Ecology* will approve or deny the request within 60 days of receipt of a complete *Modification of Coverage* request.

⁴ Facilities that continue to exceed benchmarks after a Level 2 Corrective Action is triggered, but prior to the Level 2 Deadline, are not required to complete another Level 2 or 3 Corrective Action the following year for the same parameter. However, a Level 1 Corrective Action is required each time a benchmark is exceeded.

D. <u>Level Three Corrective Actions – Treatment BMPs</u>

Permittees that exceed an applicable *benchmark* value (for a single parameter) for any three quarters during a calendar year shall complete a Level 3 Corrective Action in accordance with the following⁵:

- 1. Review the SWPPP and ensure that it fully complies with Permit Condition S3.
- 2. Make appropriate revisions to the SWPPP to include additional *Treatment BMPs* with the goal of achieving the applicable *benchmark* value(s) in future discharges.
 - a. The Permittee shall sign and certify the revised SWPPP in accordance with S3.A.6.
 - b. A licensed professional engineer, geologist, hydrogeologist, or Certified Professional in Storm Water Quality (CPSWQ) shall design and stamp the portion of the SWPPP that addresses *stormwater* treatment structures or processes.
 - i. *Ecology* may waive the requirement for a licensed or certified professional upon request of the Permittee and demonstration that the Permittee or treatment device vendor can properly design and install the treatment device.
 - ii. *Ecology* will not waive the Level 3 requirement for a licensed or certified professional more than one time during the permit cycle.
- 3. Summarize the Level 3 Corrective Actions (planned or taken) in the Annual Report (Condition S9.B).
- 4. **Level 3 Deadline**: The Permittee shall fully implement the revised SWPPP according to Permit Condition S3 and the applicable *Stormwater Management Manual* as soon as possible, but no later than September 30th the following year.
 - a. If installation of necessary *Treatment BMPs* is not feasible by the Level 3 Deadline; *Ecology* may approve additional time by approving a *Modification of Permit Coverage*.
 - b. If installation of *Treatment BMPs* is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard, *Ecology* may waive the requirement for *Treatment BMPs* by approving a *Modification of Permit Coverage*.
 - c. To request a time extension or waiver, a Permittee shall submit a detailed explanation of why it is making the request (technical basis), and a Modification of Coverage form to *Ecology* in accordance with Condition S2.B, by June 1st prior to the Level 3 Deadline. *Ecology* will approve or deny the request within 60 days of receipt of a complete *Modification of Coverage* request.

⁵ Facilities that continue to exceed benchmarks after a Level 3 Corrective Action is triggered, but prior to the Level 3 Deadline, are not required to complete another Level 2 or 3 Corrective Action the following year for the same parameter. However, a Level 1 Corrective Action is required each time a benchmark is exceeded.

S9. REPORTING AND RECORDKEEPING

A. Discharge Monitoring Reports

- 1. The Permittee shall submit sampling data obtained during each reporting period on a Discharge Monitoring Report (DMR) form provided, or otherwise approved, by *Ecology*.
- 2. The Permittee shall submit sampling results within 45 days of the end of each reporting period.
- 3. The first reporting period shall begin on the effective date of permit coverage.
- 4. Upon permit coverage, the Permittee shall ensure that DMRs are postmarked or received by *Ecology* by the DMR Due Dates below:

Table 7: Reporting Dates and DMR Due Dates

Reporting Period	Months	DMR Due Date
1 st	January-March	May 15
2 nd	April-June	August 14
3 rd	July-Sept	November 14
4 th	October-December	February 14

5. DMRs shall be submitted using *Ecology*'s WebDMR system or by mail to the following address:

Department of Ecology Water Quality Program – Industrial Stormwater PO Box 47696 Olympia, Washington 98504-7696

- 6. Upon permit coverage, the Permittee shall submit a DMR each reporting period, whether or not the *facility* has discharged *stormwater* from the site.
 - a. If no *stormwater* sample was obtained from the site during a given reporting period, the Permittee shall submit the DMR form indicating "no sample obtained", or "no discharge during the quarter", as applicable.
 - b. If a Permittee has suspended sampling for a parameter due to consistent attainment, the Permittee shall submit a DMR and indicate that it has achieved Consistent Attainment for that parameter(s).

B. Annual Reports

- 1. The Permittee shall submit a complete and accurate Annual Report to the Department of *Ecology* no later than May 15th of each year (except 2010) using a form provided by or otherwise approved by *Ecology*.
- 2. The annual report shall include corrective action documentation as required in S8.B-D. If corrective action is not yet completed at the time of submission of this annual report, the Permittee must describe the status of any outstanding corrective action(s).

- 3. Permittees shall include the following information with each annual report. The Permittee shall:
 - a. Identify the condition triggering the need for corrective action review.
 - b. Describe the problem(s) and identify the dates they were discovered.
 - c. Summarize any Level 1, 2 or 3 corrective actions completed during the previous calendar year and include the dates it completed the corrective actions.
 - d. Describe the status of any Level 2 or 3 corrective actions triggered during the previous calendar year, and identify the date it expects to complete corrective actions.
- 4. Permittees shall retain a copy of all annual reports onsite for *Ecology* review.

C. Records Retention

- 1. The Permittee shall retain the following documents onsite for a minimum of five years:
 - a. A copy of this permit.
 - b. A copy of the permit coverage letter.
 - c. Records of all sampling information specified in Condition S4.B.3.
 - d. Inspection reports including documentation specified in Condition S7.
 - e. Any other documentation of compliance with permit requirements.
 - f. All equipment calibration records.
 - g. All BMP maintenance records.
 - h. All original recordings for continuous sampling instrumentation.
 - Copies of all laboratory reports as described in Condition S3.B.4.
 - j. Copies of all reports required by this permit.
 - k. Records of all data used to complete the application for this permit.
- 2. The Permittee shall extend the period of records retention during the course of any unresolved litigation regarding the *discharge* of *pollutants* by the Permittee, or when requested by *Ecology*.
- 3. The Permittee shall make all plans, documents and records required by this permit immediately available to *Ecology* or the local jurisdiction upon request; or within 14 days of a written request from *Ecology*.

D. Additional Sampling by the Permittee

If the Permittee samples any *pollutant* at a designated sampling point more frequently than required by this permit, then the Permittee shall include the results in the calculation and reporting of the data submitted in the Permittee's DMR.

E. Reporting Permit Violations

- 1. In the event the Permittee is unable to comply with any of the terms and conditions of this permit which may endanger human health or the environment, or the facility experiences any *bypass* or upset which causes an exceedance of any effluent limitation in the permit, the Permittee shall:
 - a. Immediately take action to minimize potential *pollution* or otherwise stop the noncompliance and correct the problem.
 - b. Immediately notify the appropriate *Ecology* regional office of the failure to comply.
 - c. Submit a detailed written report to *Ecology* within 30 days unless *Ecology* requests an earlier submission. The Permittee's report shall contain:
 - i. A description of the noncompliance, including exact dates and times.
 - ii. Whether the noncompliance has been corrected and, if not, when the noncompliance will be corrected.
 - iii. The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- 2. Compliance with the requirements of this section does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

F. Public Access to SWPPP

The Permittee shall provide access to, or a copy of, the SWPPP to the public when requested in writing. Upon receiving a written request from the public for the SWPPP, the Permittee shall:

- 1. Provide a copy of the SWPPP to the requestor within 14 days of receipt of the written request; or
- 2. Notify the requestor within 10 days of receipt of the written request of the location and times within normal business hours when the requestor may view the SWPPP, and provide access to the SWPPP within 14 days of receipt of the written request; or
- 3. Provide a copy of the plans and records to *Ecology*, where the requestor may view the records, within 14 days of a request; or may arrange with the requestor for an alternative, mutually agreed upon location for viewing and/or copying of the plans and records. If access to the plans and records is provided at a location other than at an *Ecology* office, the Permittee will provide reasonable access to copying services for which it may charge a reasonable fee.

S10. COMPLIANCE WITH STANDARDS

- A. Discharges shall not cause or contribute to a violation of *Surface Water Quality Standards* (Chapter 173-201A WAC), Ground Water Quality Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36). Discharges that are not in compliance with these standards are prohibited.
- B. *Ecology* will presume compliance with *water quality standards*, unless *discharge* monitoring data or other site specific information demonstrates that a discharge causes or contributes to violation of *water quality standards*, when the Permittee is:
 - 1. In full compliance with all permit conditions, including planning, sampling, monitoring, reporting, and recordkeeping conditions.
 - 2. Fully implementing storm water best management practices contained in storm water technical manuals approved by the department, or practices that are demonstrably equivalent to practices contained in storm water technical manuals approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate best management practices for on-site pollution control.
- C. Prior to the *discharge* of *stormwater* and non-stormwater to *waters of the state*, the Permittee shall apply all known and reasonable methods of prevention, control, and treatment (*AKART*). To comply with this condition, the Permittee shall prepare and implement an adequate SWPPP, with all applicable and appropriate BMPs, including the BMPs necessary to meet the standards identified in Condition S10.A, and shall install and maintain the BMPs in accordance with the SWPPP, applicable SWMMs, and the terms and conditions of this permit.

S11. PERMIT FEES

- A. The Permittee shall pay permit fees assessed by *Ecology* and established in Chapter 173-224 WAC.
- B. *Ecology* will continue to assess permit fees until it terminates a permit in accordance with Special Condition S13 or revoked in accordance with General Condition G5.

S12. SOLID AND LIQUID WASTE MANAGEMENT

The Permittee shall not allow solid waste material or *leachate* to cause violations of the State Surface *Water Quality Standards* (Chapter 173-201A WAC), the *Ground Water Quality Standards* (Chapter 173-200 WAC) or the Sediment Management Standards (Chapter 173-204 WAC).

S13. NOTICE OF TERMINATION (NOT)

A. Conditions for a NOT

Ecology may approve a *Notice of Termination* (NOT) request when the Permittee meets one or more of the following conditions:

- 1. All permitted *stormwater* discharges associated with *industrial activity* that are authorized by this permit cease because the *industrial activity* has ceased, and no *significant materials* or industrial *pollutants* remain exposed to *stormwater*.
- 2. The party that is responsible for permit coverage (signatory to *application*) sells or otherwise legally transfers responsibility for the *industrial activity*.
- 3. All *stormwater* discharges associated with *industrial activity* are prevented because the *stormwater* is redirected to a *sanitary sewer*, or discharged to ground (e.g., infiltration, etc.).

B. Procedure for Obtaining Termination

- 1. The Permittee shall apply for a NOT on a form specified by *Ecology* (NOT Form).
- 2. The Permittee seeking permit coverage termination shall sign the NOT in accordance with Condition G2. of this permit.
- 3. The Permittee shall submit the completed NOT form to *Ecology* at the address in Condition S9.A.5.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this *general permit* shall be consistent with the terms and conditions of this *general permit*. Any *discharge* of any *pollutant* more frequently than, or at a level in excess of that identified and authorized by the *general permit*, shall constitute a violation of the terms and conditions of this permit.

G2. SIGNATORY REQUIREMENTS

- A. All permit *applications* shall be signed:
 - 1. In the case of corporations, by a responsible corporate officer of at least the level of vice president of a corporation.
 - 2. In the case of a partnership, by a general partner of a partnership.
 - 3. In the case of sole proprietorship, by the proprietor.
 - 4. In the case of a municipal, state, or other public *facility*, by either a principal executive officer or ranking elected official.
- B. All reports required by this permit and other information requested by *Ecology* shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - 1. The authorization is made in writing by a person described above and submitted to the *Ecology*.
 - 2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated *facility*, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.
- C. Changes to authorization. If an authorization under paragraph G2.B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the *facility*, a new authorization satisfying the requirements of paragraph G2.B.2 above shall be submitted to *Ecology* prior to, or together with, any reports, information, or *applications* to be signed by an authorized representative.
- D. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that *qualified personnel* properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there

are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G3. RIGHT OF INSPECTION AND ENTRY

The Permittee shall allow an authorized representative of *Ecology*, upon the presentation of credentials and such other documents as may be required by law:

- A. To enter upon the premises where a *discharge* is located or where any records shall be kept under the terms and conditions of this permit.
- B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.
- C. To inspect, at reasonable times, any facilities, equipment (including sampling and control equipment), practices, methods, or operations regulated or required under this permit.
- D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the *Clean Water Act*.

G4. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

- A. When a change which occurs in the technology or practices for control or abatement of *pollutants* applicable to the category of *dischargers* covered under this permit.
- B. When effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of *dischargers* covered under this permit.
- C. When a water quality management plan containing requirements applicable to the category of *dischargers* covered under this permit is approved.
- D. When information is obtained which indicates that cumulative effects on the environment from *dischargers* covered under this permit are unacceptable.

G5. REVOCATION OF COVERAGE UNDER THE PERMIT

- A. Pursuant with Chapter 43.21B RCW and Chapter 173-226 WAC, *Ecology* may terminate coverage for any *discharger* under this permit for cause. Cases where coverage may be terminated include, but are not limited to, the following:
 - 1. Violation of any term or condition of this permit.
 - 2. Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts.
 - 3. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

- 4. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.
- 5. A determination that the permitted activity endangers human health or the environment, or contributes to *water quality standards* violations.
- 6. Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC.
- 7. Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable.
- B. *Ecology* may require any *discharger* under this permit to apply for and obtain coverage under an individual permit or another more specific *general permit*.
- C. Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within 90 days from the time of revocation and is submitted along with a complete individual permit *application* form.

G6. REPORTING A CAUSE FOR MODIFICATION

The Permittee shall submit a new *application*, or a supplement to the previous *application*, whenever a material change to the *industrial activity* or in the quantity or type of *discharge* is anticipated which is not specifically authorized by this permit. This *application* shall be submitted at least 60 days prior to any proposed changes. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180 days prior to the expiration date of this permit.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other *pollutants* removed in the course of treatment or control of *stormwater* shall not be resuspended or reintroduced to the final effluent stream for *discharge* to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee shall submit to *Ecology*, within a reasonable time, all information which *Ecology* may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee shall also submit to *Ecology*, upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL SAMPLING

Ecology may establish specific sampling requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to \$10,000 and costs of prosecution, or by imprisonment at the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of this permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to \$10,000 for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G14. UPSET

Definition – "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted *facility* was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in condition S5.F; and 4) the Permittee complied with any remedial measures required under this permit.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G15. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G16. DUTY TO COMPLY

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the *Clean Water Act* and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

G17. TOXIC POLLUTANTS

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the *Clean Water Act* for toxic *pollutants* within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G18. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any sampling device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this Condition, punishment shall be a fine of not more than \$20,000 per day of violation, or imprisonment of not more than four years, or both.

G19. REPORTING PLANNED CHANGES

The Permittee shall, as soon as possible, give notice to *Ecology* of planned physical alterations, modifications or additions to the permitted *industrial activity*, which will result in:

A. The permitted *facility* being determined to be a new source pursuant to 40 CFR 122.29(b).

- B. A significant process change, as defined in the glossary of this permit.
- C. A change in the location of *industrial activity* that affects the Permittee's sampling requirements in Conditions S3, S4, S5, and S6.

Following such notice, permit coverage may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G20. REPORTING OTHER INFORMATION

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to Ecology, it shall promptly submit such facts or information.

G21. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee shall give advance notice to *Ecology* by submission of a new *application*, or supplement to the existing *application*, at least 45 days prior to commencement of such discharges, of any *facility* expansions, production increases, or other planned changes, such as process modifications, in the permitted *facility* or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of operation and degradation of effluent quality, shall be scheduled during non-critical water quality periods and carried out in a manner approved by *Ecology*.

G22. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT

- A. Any *discharger* authorized by this permit may request to be excluded from coverage under the *general permit* by applying for an individual permit.
- B. The *discharger* shall submit to *Ecology* an *application* as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. These reasons shall fully document how an individual permit will apply to the applicant in a way that the *general permit* cannot.
- C. *Ecology* may make specific requests for information to support the request. *Ecology* shall either issue an individual permit or deny the request with a statement explaining the reason for the denial.
- D. When an individual permit is issued to a *discharger* otherwise subject to the industrial *stormwater general permit*, the applicability of the industrial *stormwater general permit* to that Permittee is automatically terminated on the effective date of the individual permit.

G23. APPEALS

- A. The terms and conditions of this *general permit*, as they apply to the appropriate class of *dischargers*, are subject to appeal by any person within 30 days of issuance of this *general permit*, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.
- B. The terms and conditions of this *general permit*, as they apply to an individual *discharger*, are appealable in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that *discharger*. Consideration of an appeal of *general permit* coverage of an individual *discharger* is limited to the *general permit*'s applicability or nonapplicability to that individual *discharger*.
- C. The appeal of *general permit* coverage of an individual *discharger* does not affect any other *dischargers* covered under this *general permit*. If the terms and conditions of this *general permit* are found to be inapplicable to any individual *discharger*(s), the matter shall be remanded to *Ecology* for consideration of issuance of an individual permit or permits.

G24. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G25. BYPASS PROHIBITED

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited, and Ecology may take enforcement action against a Permittee for bypass unless one of the following circumstances (A, B, or C) is applicable.

A. <u>Bypass</u> for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health as determined by *Ecology* prior to the *bypass*. The Permittee must submit prior notice, if possible, at least ten (10) days before the date of the *bypass*.

B. <u>Bypass Which is Unavoidable, Unanticipated, and Results in Noncompliance of this</u> Permit

This *bypass* is permitted only if:

1. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

- 2. There are no feasible alternatives to the *bypass*, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a *bypass* which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment *facility*.
- 3. Ecology is properly notified of the bypass as required in condition S3E of this permit.
- C. <u>Bypass</u> which is Anticipated and has the Potential to Result in Noncompliance of this Permit

The Permittee must notify *Ecology* at least thirty (30) days before the planned date of *bypass*. The notice must contain (1) a description of the *bypass* and its cause; (2) an analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing; (3) a cost-effectiveness analysis of alternatives including comparative resource damage assessment; (4) the minimum and maximum duration of *bypass* under each alternative; (5) a recommendation as to the preferred alternative for conducting the *bypass*; (6) the projected date of *bypass* initiation; (7) a statement of compliance with SEPA; (8) a request for modification of *water quality standards* as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated; and (9) steps taken or planned to reduce, eliminate, and prevent reoccurrence of the *bypass*.

For probable construction bypasses, the need to *bypass* is to be identified as early in the planning process as possible. The analysis required above must be considered during preparation of the engineering report or facilities plan and plans and specifications and must be included to the extent practical. In cases where the probable need to *bypass* is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the *bypass*.

Ecology will consider the following prior to issuing an administrative order for this type *bypass*:

- 1. If the *bypass* is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.
- 2. If there are feasible alternatives to *bypass*, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment *facility*.
- 3. If the *bypass* is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed *bypass* and any other relevant factors, *Ecology* will approve or deny the request. The public must be notified and given an opportunity to comment on *bypass* incidents of significant duration, to the extent feasible. Approval of a request to *bypass* will be by administrative order issued by *Ecology* under RCW 90.48.120.

APPENDIX 1 - ACRONYMS

BMP Best Management Practice

CAS Chemical Abstract Service

CERCLA Comprehensive Environmental Response Compensation & Liability Act

CFR Code of Federal Regulations

CWA Clean Water Act

CWA Centralized Waste Treatment

EPA Environmental Protection Agency
ESC Erosion and Sediment Control

FWPCA Federal Water Pollution Control Act

NOT Notice of Termination

NPDES National Pollutant Discharge Elimination System

RCRA Resource Conservation and Recovery Act

RCW Revised Code of Washington

SARA Superfund Amendment and Reauthorization Act

SEPA State Environmental Policy Act SIC Standard Industrial Classification

SMCRA Surface Mining Control and Reclamation Act

SWMM Stormwater Management Manual SWPPP Stormwater Pollution Prevention Plan

TMDL Total Maximum Daily Load

USC United States Code

USEPA United States Environmental Protection Agency

WAC Washington Administrative Code

WQ Water Quality

APPENDIX 2 - DEFINITIONS

<u>40 CFR</u> means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

<u>303(d)-listed water body</u> means waterbodies as listed as Category 5 on Washington State's Water Quality Assessment.

Air Emission means a release of air contaminants into the ambient air.

<u>AKART</u> is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the *pollutants* and controlling *pollution* associated with a discharge.

<u>Applicable TMDL</u> means any TMDL which has been completed either before the issuance date of this permit or the date the permittee first obtains coverage under this permit, whichever is later.

<u>Application</u> means a request for coverage under this *general permit* pursuant to WAC 173-226-200. Also called a *Notice of Intent (NOI)*.

<u>Best Management Practices</u> (BMPs - general definition) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the *pollution* of *waters of the state*. BMPs include treatment systems, operating procedures, and practices to control: plant site *runoff*, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In this permit BMPs are further categorized as operational source control, structural source control, *erosion* and *sediment* control, and *treatment BMPs*.

<u>Benchmark</u> means a *pollutant* concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not *water quality standards* and are not numeric effluent limitations; they are indicator values.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

<u>Clean Water Act</u> (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.

<u>Combined Sewer</u> means a sewer which has been designed to serve as a <u>sanitary sewer</u> and a <u>storm sewer</u>, and into which inflow is allowed by local ordinance.

<u>Construction Activity</u> means clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, industrial buildings, and demolition activity.

<u>Control Plan</u> means a *total maximum daily load (TMDL)* determination, restrictions for the protection of endangered species, a *ground water* management plan, or other limitations that regulate or set limits on discharges to a specific water body or *ground water* recharge area.

<u>Demonstrably Equivalent</u> means that the technical basis for the selection of all storm water <u>best</u> management practices are documented within a storm water <u>pollution</u> prevention plan. The storm water <u>pollution</u> prevention plan must document: 1) The method and reasons for choosing the storm water <u>best management practices</u> selected; 2) The <u>pollutant</u> removal performance expected from the practices selected; 3) The technical basis supporting the performance claims for the practices selected, including any available existing data concerning field performance of the practices selected; 4) An assessment of how the selected practices will comply with state water quality standards; and 5) An assessment of how the selected practices will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment.

<u>Detention</u> means the temporary storage of *stormwater* to improve quality and/or to reduce the mass flow rate of discharge.

<u>Discharge [of a pollutant]</u> means any addition of any pollutant or combination of pollutants to waters of the United States from any point source. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

<u>Discharger</u> means an owner or operator of any *facility* or activity subject to regulation under Chapter 90.48 RCW or the Federal *Clean Water Act*.

<u>Domestic Wastewater</u> means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such ground water infiltration or surface waters as may be present.

<u>Ecology</u> means the Washington State Department of Ecology.

<u>EPA</u> means the United States Environmental Protection Agency.

<u>Equivalent BMPs</u> means operational, source control, treatment, or innovative BMPs which result in equal or better quality of *stormwater discharge* to surface water or to *ground water* than BMPs selected from the SWMM.

<u>Erosion</u> means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

<u>Erosion and Sediment Control BMPs</u> means BMPs that are intended to prevent <u>erosion</u> and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, and <u>sediment</u> traps and ponds.

<u>Existing Facility</u> means a <u>facility</u> that was in operation prior to the effective date of this permit. It also includes any <u>facility</u> that is not categorically included for coverage but is in operation when identified by <u>Ecology</u> as a <u>significant contributor of pollutants</u>.

<u>Facility</u> means any NPDES "point source" (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See 40 CFR 122.2.

<u>General Permit</u> means a permit which covers multiple <u>dischargers</u> of a point source category within a designated geographical area, in lieu of individual permits being issued to each <u>discharger</u>.

<u>Ground Water</u> means water in a saturated zone or stratum beneath the land surface or a surface water body.

<u>Illicit Discharge</u> means any <u>discharge</u> that is not composed entirely of <u>stormwater</u> except (1) discharges authorized pursuant to a separate NPDES permit, or (2) conditionally authorized non-stormwater discharges identified in Condition S5.D.

<u>Inactive Facility</u> means a *facility* that no longer engages in business, production, providing services, or any auxiliary operation.

<u>Industrial Activity</u> means (1) the 11 categories of industrial activities identified in 40 CFR 122.26(b)(14)(i-xi) that must apply for either coverage under this permit or no exposure certification, (2) any facility conducting any activities described in Table 1, and (3) identified by *Ecology* as a significant contributor of pollutants. Table 1 lists the 11 categories of industrial activities identified in 40 CFR 122.26(b)(14)(i-xi) in a different format.

<u>Landfill</u> means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a *land application site*, surface impoundment, injection well, or waste pile.

<u>Land Application Site</u> means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

<u>Leachate</u> means water or other liquid that has percolated through raw material, product or waste and contains substances in solution or suspension as a result of the contact with these materials.

<u>Local Government</u> means any county, city, or town having its own government for local affairs.

<u>Material Handling</u> means storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product.

<u>Municipality</u> means a political unit such as a city, town or county; incorporated for local self-government.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

<u>New Development</u> means land disturbing activities, including Class IV -general forest practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of impervious surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development.

<u>New Discharge(r)</u> means a *facility* from which there is a discharge, that did not commence the *discharge* at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

<u>New Facility</u> means a facility that begins activities that result in a discharge or a potential discharge to waters of the state on or after the effective date of this general permit.

<u>Noncontact Cooling Water</u> means water used for cooling which does not come into direct contact with any raw material, intermediate product, waste product, or finished product.

<u>Notice of Termination</u> (NOT) means a request for termination of coverage under this *general* permit as specified by Special Condition S11 of this permit.

<u>Operational Source Control BMPs</u> means schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the *pollution* of *waters of the state*. Not included are BMPs that require construction of *pollution* control devices.

<u>Pollutant</u> means the <u>discharge</u> of any of the following to <u>waters of the state</u>: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the FWPCA nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the FWPCA.

<u>Pollution</u> means contamination or other alteration of the physical, chemical, or biological properties of waters of the state; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial,

industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish, or other aquatic life.

<u>Process Wastewater</u> means any water which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

<u>Qualified Personnel</u> means those who possess the knowledge and skills to assess conditions and activities that could impact *stormwater* quality at the *facility*, and evaluate the effectiveness of best management practices required by this permit.

<u>Quantitation Level (QL)</u> also known as Minimum Level of Quantitation (ML) means the lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

<u>Reasonable Potential</u> means the likely probability for *pollutants* in the *discharge* to exceed the applicable water quality criteria in the receiving water body.

<u>Redevelopment</u> means on a site that is already substantially developed (i.e., has 35% or more of existing impervious surface coverage), the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities.

<u>Regular Business Hours</u> means those time frames when the <u>facility</u> is engaged in its primary production process, but does not include additional shifts or weekends when partial staffing is at the site primarily for maintenance and incidental production activities. <u>Regular business hours</u> do not include periods of time that the <u>facility</u> is inactive and <u>unstaffed</u>.

<u>Representative [sample]</u> means a sample of the <u>discharge</u> that accurately characterizes <u>stormwater runoff</u> generated in the designated drainage area of the <u>facility</u>.

<u>Runoff</u> means that portion of rainfall or snowmelt water not absorbed into the ground that becomes surface flow.

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

<u>Sediment</u> means the fragmented material that originates from the weathering and *erosion* of rocks, unconsolidated deposits, or unpaved yards, and is transported by, suspended in, or deposited by water.

<u>Severe Property Damage</u> means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent

loss of natural resources which can reasonably be expected to occur in the absence of a *bypass*. *Severe property damage* does not mean economic loss caused by delays in production.

<u>Significant Amount</u> means an amount of a *pollutant* in a *discharge* that is amenable to available and reasonable methods of prevention, control, or treatment; or an amount of a *pollutant* that has a *reasonable potential* to cause a violation of surface or *ground water quality standards* or *sediment* management standards.

<u>Significant Contributor of Pollutant(s)</u> means a facility determined by *Ecology* to be a contributor of a significant amount(s) of a pollutant(s) to waters of the state.

<u>Significant Materials</u> includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the *facility* is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with *stormwater* discharges.

<u>Significant Process Change</u> means any modification of the *facility* that would result in any of the following:

- 1. Add different pollutants in a significant amount to the discharge.
- 2. Increase the pollutants in the stormwater discharge by a significant amount.
- 3. Add a new industrial activity (SIC) that was not previously covered.
- 4. Add additional impervious surface or acreage such that *stormwater* discharge would be increased by 25% or more.

<u>Source Control BMPs</u> means physical, structural or mechanical devices or facilities that are intended to prevent *pollutants* from entering *stormwater*.

<u>Standard Industrial Classification (SIC)</u> is the statistical classification standard underlying all establishment-based federal economic statistics classified by industry as reported in the 1987 SIC Manual by the Office of Management and Budget.

<u>State Environmental Policy Act (SEPA)</u> means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

<u>Storm Sewer</u> means a sewer that is specifically designed to carry *stormwater*. Also called a storm drain.

<u>Stormwater</u> means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a *stormwater drainage system* into a defined surface water body, or a constructed infiltration *facility*.

<u>Stormwater Discharge Associated with Industrial Activity</u> means the <u>discharge</u> from any conveyance that is used for collecting and conveying <u>stormwater</u> and that is directly related to

manufacturing, processing or raw materials storage areas at an industrial plant (see 40 CFR 122(b)(14)).

<u>Stormwater Drainage System</u> means constructed and natural features which function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate or divert *stormwater*.

<u>Stormwater Management Manual (SWMM) or Manual</u> means the technical manuals prepared by *Ecology* for *stormwater* management in western and eastern Washington.

<u>Stormwater Pollution Prevention Plan (SWPPP)</u> means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of *stormwater*.

<u>Structural Source Control BMPs</u> means physical, structural, or mechanical devices or facilities that are intended to prevent *pollutants* from entering *stormwater*.

<u>Surface Waters of the State</u> includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state.

<u>Total Maximum Daily Load (TMDL)</u> means a calculation of the maximum amount of a *pollutant* that a water body can receive and still meet state *water quality standards*. Percentages of the *total maximum daily load* are allocated to the various *pollutant* sources. A *TMDL* is the sum of the allowable loads of a single *pollutant* from all contributing point and nonpoint sources. The *TMDL* calculations include a "margin of safety" to ensure that the water body can be protected in case there are unforeseen events or unknown sources of the *pollutant*. The calculation also accounts for seasonable variation in water quality.

<u>Treatment BMPs</u> means BMPs that are intended to remove *pollutants* from *stormwater*.

<u>Turbidity</u> means the clarity of water expressed as nephelometric <u>turbidity</u> units (NTU) and measured with a calibrated turbidimeter.

<u>Underground Injection Control Well</u> means a well that is used to <u>discharge</u> fluids into the subsurface. An <u>underground injection control well</u> is one of the following:

- 1. A bored, drilled, or driven shaft,
- 2. An improved sinkhole, or
- 3. A subsurface fluid distribution system. (WAC 173-218-030)

<u>Unstaffed</u> means the *facility* has no assigned staff. A site may be "unstaffed" even when security personnel are present, provided that *pollutant* generating activities are not included in their duties.

<u>Vehicle</u> means a motor-driven conveyance that transports people or freight, such as an automobile, truck, train, or airplane.

<u>Vehicle Maintenance</u> means the rehabilitation, mechanical repairing, painting, fueling, and/or lubricating of a motor-driven conveyance that transports people or freight, such as an automobile, truck, train, or airplane.

<u>Wasteload Allocation (WLA)</u> means the portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of *pollution*. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2(h)).

<u>Water Quality Standards</u> means the Water Quality Standards for <u>Surface Waters of the State</u> of Washington, Chapter 173-201A WAC, Ground Water Quality Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), and human health-based criteria in the National Toxics Rule (40 CFR 131.36).

<u>Waters of the State</u> includes those waters defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State. State statute defines "waters of the state" to include lakes, rivers, ponds, streams, wetlands, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the state of Washington (Chapter 90.48 RCW).

APPENDIX 3 - SWPPP CERTIFICATION FORM

The Permittee shall use this form to sign and certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate and in compliance with Conditions S3 and S8 of the Industrial Stormwater General Permit.

- A SWPPP certification form needs to be completed and attached to all SWPPPs.
- Each time a Level 1, 2, or 3 Corrective Action is required, this form needs to be re-signed and re-certified by the Permittee, and attached to the SWPPP.

Is this SWPPP certification in re	esponse to a Level 1, 2 or 3 Corre	ctive Action? Yes No
If <u>Yes</u> :		
Type of Corrective	e Action?: Level 1 Level 2]Level 3
Date SWPPP upd	ate/revision completed:	
supervision in accordance with a sand evaluate information to determ on my inquiry of the person or per this SWPPP is, to the best of my compliance with Permit Conditions the applicable Stormwater Manag	this SWPPP and all attachments we system designed to assure that quarmine compliance with the Industrial resons who are responsible for storm knowledge and belief, true, accurate as S3 and S8, including the correct Element Manual. I am aware that the ding the possibility of fine and imprison	lified personnel properly gather Stormwater General Permit. Based water management at my facility, e, and complete, and in full Best Management Practices from re are significant penalties for
Operator's Printed Name *		Title
Operator's Signature *		Date

* Federal regulations require this document to be signed as follows:

For a corporation, by a principal executive officer of at least the level of vice president; For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

This document shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- 1. The authorization is made in writing by a person described above and submitted to the Ecology.
- The authorization specifies either an individual or a position having responsibility for the overall
 operation of the regulated facility, such as the position of plant manager, superintendent, position
 of equivalent responsibility, or an individual or position having overall responsibility for
 environmental matters.

Changes to authorization. If an authorization under number 2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of number 2 above shall be submitted to Ecology prior to, or together with, any reports, information, or applications to be signed by an authorized representative.

APPENDIX 4 - EXISTING DISCHARGERS TO IMPAIRED WATER BODIES

This appendix has a <u>link</u> below to a website list of existing Permittees that *discharge pollutants* of concern to impaired water bodies.

http://www.ecy.wa.gov/programs/wq/stormwater/industrial/permitdocs/iswgpapp4.pdf

This list is based on the best information available to *Ecology*. There will be changes and updates to this list based on new, more accurate information. If changes or updates are made, *Ecology* will notify the affected permittees directly. Such changes or updates will not become effective until 30 days after the affected *dischargers* are notified.

This list is generated by comparing the *discharge* point of each individual *discharger* permitted under the Industrial *Stormwater General Permit* with the 2008 list of Category 5 impaired waters (the 303(d) list), approved by US EPA on January 29, 2009.

APPENDIX 5 - DISCHARGERS SUBJECT TO TMDL REQUIREMENTS

The list of *dischargers* identified as discharging to water bodies which have completed water quality clean-up plans or *TMDL*s and associated monitoring requirements can be viewed on *Ecology*'s website at: http://www.ecy.wa.gov/programs/wq/stormwater/industrial/index.html

The most current list can also be obtained by contacting Ecology at:
Industrial Stormwater General Permit
Washington State Department of Ecology
P.O. Box 47696
Olympia, WA 98504-7600

This list is based on the best information available to *Ecology*. There will be changes and updates to this list based on new, more accurate information. If changes or updates are made, *Ecology* will notify the affected permittees directly. Such changes or updates will not become effective until 30 days after the affected *dischargers* are notified.

Worksheets 1-4 (Industrial Activities, Pollutant Sources, Spill Log, Employee Training)

Identify Areas Associated with Industrial Activity Worksheet #1 Edit these areas to only include those occurring at the facility or add additional areas which may be sources of pollution. Discuss the potential of these areas and activities as potential pollutant sources and identify any pollutant that may be generated by that activity. Potential Stormwater Pollutant from Area or Likelihood of Being Present in Stormwater Discharge and Source of Potential Industrial Area or Activity Contamination Activity Plasma Table Operations Copper, Oil and Grease. Leakage of process water or fluids and setting stock or unfinished product on non-contained Turbidity surfaces could possibly result in runoff/ into the storm drain. However, this operation is conducted indoors and drainage to the storm drain is deemed very unlikely. Potential for vaporization of metals during high temperature cutting. Raw product and materials in Copper, Zinc, Oil and Outdoor areas of raw material and finished product storage are potential sources of pollutants to stormwater. However, much of the finished product is stainless steel, which is not expected to outdoor storage areas Grease, Turbidity leach copper or zinc to stormwater. Truck and forklift transport of Copper, Zinc, Oil and Vehicle traffic can track dirt and particulates around the facility. Wear from brake pads is a Grease, Turbidity known source of copper. materials Generated dust or particulates Copper, Turbidity Uncontrolled migration of particulates and dust from plasma table and cutting operations could result in impact to stormwater. Copper Deposition of particulates onto air emission contaminants may likely result in runoff/seepage into Roofs or other surfaces exposed to vented air emissions from stormwater system. processing Oil and Grease Only minor amounts of fueling are performed on site at the diesel storage tank. The majority of Vehicle fueling, maintenance fueling is performed off site. Maintenance or cleaning of vehicles is generally not performed on and/or cleaning site, and in the unexpected event that it would need to be conducted on site it would be performed only if the nearby storm drains are plugged and any generated wash water or vehicle fluids are collected and taken for proper treatment/disposal. Zinc and Copper Roofing and building construction materials having corrosion protective coatings (including Building walls, roofs, or other galvanized materials) or painted surfaces may likely result in leaching of zinc or copper into surfaces, both painted and unpainted, that contain metals stormwater.

Potential Pollutant Source Identification

Worksheet #2

List all potential stormwater pollutants from on site activities, including stored materials.

Stormwater Pollutant Source	Potential Stormwater Pollutant	Likelihood of Pollutant Being Present in Stormwater Discharge	
Plasma Table and Cutting Operations	Copper	Potential due to vaporization of metals during high temperature cutting	
Outdoor Stored Raw and Final Products	Copper, Zinc, Cutting Fluids, and Oils	Likely due to exposure to rain or moisture	
General Truck and Forklift Operations	Oils and Grease, Copper	Likely minor source due to drips of fuel or lubrication oil from forklifts or material supplier trucks and vehicles, and copper from brake pads	
Metal Cutting Work Stations	Cooling Fluids	Unlikely due to process containment but potential for coolant line rupture or failure	
Building and Structures	Zinc and Copper	Likely due to leaching from materials of construction	
Dust and Particle Emissions	Copper, Turbidity	Possible due to vaporization of metals and air movement during high temperature cutting. Also possible from other facility operations and material handling and transport.	

List of Significant Spills and Leaks						Worksheet #3		
List all spills and leaks of toxic or hazardous pollutants that were significant. Significant spills and leaks include but are <u>not</u> limited to, release of <u>oil</u> or <u>hazardous</u> substances in excess of reportable quantities. Although not required, it is recommended to list spills and leaks of non-hazardous materials.								
		Description			Response Procedure			
Date and Time (month/day/year)	Location (refer to site map)	Type of Material	Quantity	Source (if known)	Reason for Spill/Leak	Amount of Material Recovered	Material No Longer Exposed to Stormwater (Yes/No)	Preventive Measure Taken
								<u> </u>

Employee Training		Worksheet #4					
Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.							
Training Topics	Brief Description of Training Program/Materials (for example: film, newsletter, class)	Schedule for Training	Attendees (sign and date on reverse side)				
1) Line Workers							
Spill Prevention and Response	Written training program based on Ecology Stormwater Program Guidelines Standard ER Response Procedures (1910.120)	July 31	Spill Prevention Team Members and Department Managers				
Good Housekeeping	Internal policy and BMP review indicated in the SWPPP	July 31	Department Managers and Employees				
Material Management Practices	Internal policy and BMP review indicated in the SWPPP	July 31	Department Managers				
2) Pollution Prevention Team							
SWPPP Implementation	Internal policy and BMP review indicated in the SWPPP	July 31	Spill Prevention Team Members and Department Managers				
Monitoring Procedures	Internal policy and BMP review indicated in the SWPPP		Spill Prevention Team Members				

Forms and Recordkeeping (DMR, Monthly Inspection, Quarterly Sampling)

Industrial Stormwater General Permit National Pollutant Discharge Elimination System (NPDES) Discharge Monitoring Report (DMR)

Site Name: AL	ASKAN C	OPPER WORKS				77-10-00	W	/AR000139				
Site Address:	3200 6th	Avenue South									Samplin	g Point
City: Seattle		County	: King									
Submit one D	MR pers	ampling point.			Reporting	g Perio	d					
							cle one) Year:					
			1 st		2 nd		3 rd	4 th				
			Jan/Feb/Ma	ar Apr/	May/Jun	Jul/A	ug/Sept	Oct/Nov/	Dec			
<u>Parameter</u>	<u>Units</u>	Benchmark Value	Analy	tical	Labora	atory				Samp	ole Results	
		(Effluent Limit)*	Met	hod	Quanti	tation	SINGLE	SAMPLE	SIN	IGLE	AVERAGE	CONSISTENT
					<u>Lev</u>	<u>el</u>	RE	SULT	SAN	MPLE	(If more than one sample	ATTAINMENT?
									D	ATE	collected, complete additional	(Condition S4.B.6)
*											sampling log on next page.)	(✓ for yes)
									(1711)	//DD)		
Turbidity	NTU	25	EPA 180	.1, Meter	0.5	5						
рН	s.u.	5 - 9	Me	ter	±0.	.5					N/A	
Zinc, Total	μg/L	117	EPA	200.8	2.	5						
Oil Sheen	Yes/No	No visible oil sheen	N	/A	N/A	A		Present? No (circle)			N/A	N/A
Copper, Total	μg/L	Western WA: 14 Eastern WA: 32	EPA	200.8	2.0	0						
Lead, Total	µg/L	81.6	EPA	200.8	0.	5						
Total Petroleum Hydrocarbons (TPH)	mg/L	10	NWT	PH-Dx	0.	1						

		No stormwater was discStormwater was disch	•	•	-		a samnl	e wasn't co	llected	(explain	in comments section	n)
ADDITIONAL C			argou during	nonna, m	oriting riot	,	a campi	o madiri de	1,001.00	(Oxpian		,.
evaluated the informa	ation submitted	ler penalty of law, that this document d. Based on my inquiry of the person aware that there are significant pena	or persons who ma	nage the syste	em, or those p	ersons dire	ctly responsi	ble for gathering	informatio	n, the inform	assure that qualified personne nation submitted is, to the best	I properly gathered and of my knowledge and belief,
-												
Name / Title (p	orinted)				(not valid			. See Perm	nit	Date S	Signed	

Mail your DMR to: Department of Ecology, Water Quality Program - Industrial Stormwater, P.O. Box 47696, Olympia, WA 98504-7696

Industrial Stormwater General Permit National Pollutant Discharge Elimination System (NPDES) Discharge Monitoring Report (DMR)

ADDITIONAL SAMPLING LOG

If you collect more than one sample per quarter, report the results in the table below. Include the date the sample was collected, and the results of the analysis. Calculate the average (mean) for each parameter (except pH and oil sheen) and report the value in the AVERAGE column on the front page. Attach additional sheets if necessary.

Site Name: ALASKAN COPPER		WAR000139	
Site Address: 3200 6th Avenue South			Sampling Point
City: Seattle	County: King		

Sample date (MM/DD/YYYY)	Turbidity (NTU)	pH (s.u.)	Zinc, Total (µg/L)	Oil Sheen Present? (circle one)	Copper, Total (µg/L)	Lead, Total (µg/L)	Total Petroleum Hydrocarbons (TPH)
ALL AND CONTRACTOR OF THE CONT				,			444
4444			The Market Name of the Control of th				

QUARTERLY STORMWATER SAMPLING ALASKAN COPPER WORKS, SEATTLE, WASHINGTON

Qu	arter:	Date:	Sampling	Locations: _	CB331707	and C	CB330001
requ the stor	uired to collect a first storm even m event. Perm	SAMPLING: According a sample within the first t of that quarter. For the ittees need not sample of ischarge, but must still su	12 hours of stormwat cother three quarters outside of regular bus	er discharge. , sampling doe siness hours. d	Fourth quarte is not need to uring unsafe	er sam be co condi	npling must occur during anducted during the firs tions, or during quarters
1.	Time of sampling	ng (should be within 12 h	nours after discharge	begins):		CB33	31707:
		1.				<u>CB33</u>	0001:
2.	Did sampling o	ccur within the first 12 ho	ours of discharge?				Yes No
3.	If the answer to	o question 2 is no, explai	n why a sample was	not collected w	ithin the first 1	12 hou	urs.
4.	For fourth quarter?	arter sampling, did the	sampling occur duri	ng the first sto	rm event of	that	☐Yes ☐No ☐N/A
5.	Sampling methor	od (e.g., "from catch bas	in by hand"):				
6.	Sampling parar	neters: turbidity, pH, tota	l copper, total zinc, to	tal lead, total p	etroleum hydi	rocarb	oons, TSS
7.	Oil Sheen Pres	ent?		CB331707: CB330001:] No] No	
8.	Result of field n	neasurements (pH/Turbic	dity):	CB331707: CB330001:			
9.	Field meters cal	librated to meter calibrati	on standards prior to	sampling?			Yes No N/A
10.	Comments (i.e.	, unusual circumstances):				
						. :	
Nam	ne of sampler:						
Sign	ature of samp	ler:			Da	ite:	
VISL	JAL MONITOR	RING REMINDER [If m	nonthly visual monitor	ing has not alre	eady been co	nducte	ed, record the results of

MONTHLY INSPECTION FORM ALASKAN COPPER WORKS, SEATTLE, WASHINGTON

Month:	Date:	Time:	Weather Conditions:
visual inspection locations and a the state, or to	ons of the site each r areas where stormwate	nonth. Each inspec er associated with in m that drains to wat	Condition S7, qualified personnel shall conduct and document ction shall include: observations made at stormwater sampling dustrial activity is discharged off site; or discharged to waters of the state. Record the results of each inspection on this
Check for oil sh	neen, floating debris, d	liscoloration, turbidity	scharge for evidence of pollutants entering the drainage system. y, and odor. Record observations here:
(Inspection loc	cations: CB331707, CI	3330001, CB330102	2, and CB SW of Bldg 2958)
noncontact cod discharge is dis	oling water, or proce:	ss wastewater. Gr	ne presence of illicit discharges such as domestic wastewater, coundwater is not considered an illicit discharge. If an illicit gy within seven days and eliminate the illicit discharge within 30
			ecial attention to the following (check BMPs inspected):
	n insert filters inspecte	-	
	red outdoors are cove ced over waste dumps		
	as swept clean.	nors and storage co	Table 1
	nd Equipment (no maj	or leaks). 🔲 Othe	r BMPs observed? List here:
from the B 2. Do the site site map c [If the answer maintenance, tl additional or diff	MP descriptions as de e conditions including pontained in the SWPP to questions 1 or 2 value reason maintenan ferent BMPs are need	escribed in the SWPf potential pollutant so P (Yes / No)? were no, explain he ce is needed and and the rationale	curces appear to be consistent with the facility assessment and ere. Include, if applicable, the locations of BMPs that need a schedule for maintenance, as well as the locations where for the additional or different BMPs.]
Facility is in and the Permit. COMPLIANCE TIPE TO COMPLIANCE TO CONDITION SO.E Implementation	In the judgment of the CE OR NON-COMnce, the Permittee shof the Permit; and in of the remedial action	NON-COMPLIAN e person identified be PLIANCE* (check of hall prepare reports addition, include as s that the Permittee	re person identified below as Inspector, the Alaskan Copper ICE* (check one) with the terms and conditions of the SWPPP elow as Facility Representative, the Facility is in one) with the terms & conditions of the SWPPP and the Permit. To fine one of non-compliance in accordance with the requirements of spart of this inspection, a summary report and a schedule of plans to take if the site inspection indicates that the site is out requirements of the SWPPP and the permit.
CERTIFICATION	ON: I certify that this	report is true, accura	ate, and complete, to the best of my knowledge and belief.
Name of inspe	ctor (1):		Title
Signature of in	spector (1):		Date
Name of Facili	ty Representative (2	2):	Title
Signature of Fa	acility Representativ	e (2)	Date
and signature of the Therefore, by imple	ne site inspector "may be	e limited by several fac signature by the site	ents Fact Sheet, APPENDIX C Addendum Part TWO, the certification ctors including incomplete information (e.g., DMR compliance, etc)". inspector does not guarantee site compliance, nor does it imply site.
(2) In lieu of Certifi facility, in accordar	cation and signature of t nce with Condition G.2.B.	he person described in may also certify and s	n Condition G2.A of the Permit, a duly authorized representative of the sign this inspection form.

TECHNICAL MEMORANDUM



TO: James Brown, Alaskan Copper

FROM: Joe Kalmar, P.E. and Martin Valeri MCV

DATE: January 28, 2010

RE: LEVEL THREE RESPONSE AND SOURCE CONTROL REPORT

INDUSTRIAL STORMWATER GENERAL PERMIT

ALASKAN COPPER FACILITY, SEATTLE, WASHINGTON

Introduction

This technical memorandum is provided to Alaskan Copper as documentation of the Level Three Response for stormwater runoff at the Alaskan Copper Facility (Facility) in Seattle, Washington, which consists of two integrated business entities, Alaskan Copper Works, which is located at 3200 6th Avenue South, and Alaskan Copper & Brass, which is located at 3223 6th Avenue South. Figure 1 shows the general vicinity of the Facility. The layout of the Facility, the Facility's stormwater discharge locations (and associated sampling identification numbers), and the storm drain system piping at the Facility are shown on Figure 2. This Level Three Response was prepared in accordance with condition S4.C of the Industrial Stormwater General Permit (Permit) issued by the Washington State Department of Ecology (Ecology) in 2008. The Permit is issued by Ecology in accordance with the federal National Pollutant Discharge Elimination System (NPDES). According to the Permit: "If any four quarterly samples collected after December 31, 2004 are above the action levels identified... the permittee shall immediately initiate a level three response."

A Level Three Response is required for the Facility because of eight stormwater samples collected from the Facility from designated stormwater sampling location CB331707 between the third quarter of 2005 and the fourth quarter of 2009, seven of which exceeded the zinc "action level" of 342 micrograms per liter (µg/L), and eight of which exceeded the copper "action level" of 149 µg/L. Stormwater sampling results are shown in Table 1. Stormwater sampling location CB331707 is the designated stormwater sampling location in the Facility's Stormwater Pollution Prevention Plan (SWPPP) and with Ecology. Sampling at location CB330001, an additional designated stormwater sampling location identified in Alaskan Copper's revised and updated SWPPP, commenced in third quarter 2009. The third quarter 2009 sample for CB330001 exceeded the copper action level of 149 µg/L. Although this exceedance is not required to be addressed in this Level Three Response, the Best Management Practices (BMPs) discussed below in Action Items 2 and 3 are applicable to reduce pollutant levels at CB330001 as well as at CB331707.

130 2nd Avenue South • Edmonds, WA 98020 • (425) 778-0907 • fax (425) 778-6409 • www.landauinc.com

A Level Three Source Control Report, included as part of this Level Three Response, provides a summary of the evaluation of source control and operational BMPs and identifies the actions taken to reduce stormwater pollutant levels. In addition, because source control and operational BMPs may not be adequate on their own to allow consistent attainment of Permit "benchmark" values, proposed stormwater treatment BMPs are also discussed in this Level Three Response.

While not specifically required to be addressed in this Level Three Response, other pollutants of potential concern detected in stormwater runoff from the Facility are turbidity and total suspended solids (TSS). The fourth quarter 2009 sampling results at the two designated sampling locations were above the 2010 Permit turbidity benchmark of 25 Nephelometric turbidity units (NTU). The fourth quarter 2009 samples at the same two designated locations were also measured to contain above 30 milligrams per liter (mg/L) of TSS, which is an effluent limit that may be applicable to Alaskan Copper (see below for more detail). Therefore, the expected effects of the BMP improvements on turbidity and TSS are also discussed in this document, as applicable.

In past communications, Ecology indicated that Alaskan Copper discharged to an area of the Duwamish Waterway listed as an impaired waterbody and would be subject to effluent limits for TSS, as described above. However, Alaskan Copper is not currently listed among the dischargers to 303(d)-listed waterbodies under the 2010 Permit. Alaskan Copper is currently investigating this discrepancy with Ecology to determine if the TSS effluent limit is applicable. Regardless, many BMPs discussed in Action Items 2 and 3 below will reduce TSS levels in Alaskan Copper's stormwater discharge.

There are five Response Action Items that the Permit requires for a Level Three Response, and each action item is described in detail below.

LEVEL THREE RESPONSE, ACTION ITEM 1: (Promptly identify the potential sources of stormwater contamination that are causing or contributing to the presence of the benchmark parameter.)

Potential sources of stormwater contaminants typically present at industrial facilities that may also be sources at the Facility include: galvanized metal (which contains zinc) in chain-link fencing, building materials (e.g., roof, gutters, siding, paint), scrap metal, pipes, or metal equipment stored outdoors; outdoor handling and storage of raw materials and waste materials; and erosion from unpaved areas or failing pavement on roads or parking lots.

Based on the Facility's SWPPP the following specific potential sources of zinc and copper (and to a lesser extent turbidity and TSS) were identified at the Facility:

• Plasma table operations have the potential for vaporization and migration of metals during high temperature cutting. However, this operation is conducted fully indoors and fugitive dust migration or tracking to outdoors is expected to be minimal, if any.

- Outdoor storage of raw products/materials and final products is a potential source of
 pollutants to stormwater, due to exposure to rain or moisture. However, much of the finished
 product is stainless steel, which is not expected to leach copper or zinc to stormwater.
- Truck and forklift operations are a potential source of copper due to brake pad wear. Vehicle traffic can also track dirt and particulates around the Facility.
- Dust and particle emissions are a potential source of copper, zinc, and turbidity from general Facility operations and material handling and transport.
- Roofing and building construction materials having corrosion-protective coatings (including galvanized materials) or painted surfaces potentially leach zinc or copper into stormwater.
 Degraded and peeling paint can also contribute to turbidity.
- Vented process air emissions potentially depose copper particulate to roofs or other surfaces, resulting in runoff/seepage into the stormwater system.
- Solids accumulation on paved areas that haven't been swept. Sediment accumulation in Facility catch basins.
- There have been previous observations of poor drainage of stormwater out of catch basins in some areas of the Facility, especially in the drainage area south of Building 3300. Based on observations of apparent higher turbidity in water in the catch basin compared to surface runoff and higher water levels in the catch basins than the outflow pipe, it could be possible that there is backflow of stormwater into the catch basins. It is possible that an obstruction or damage to the City of Seattle (City) storm drain pipe is causing a backup of stormwater and solids in this area.

At the Alaskan Copper Facility there are separate stormwater drainage areas. Stormwater in some areas discharges to the combined (sanitary) sewer and in other areas discharges to the storm sewer (with ultimate discharge to a surface water body). Only the drainage areas at the Facility that discharge to the storm sewer and in which industrial activities occur are subject to terms of the Permit (i.e., attainment of benchmark values). The areas that meet the above-referenced discharge criteria are shown on Figure 2 and include the following: the drainage area south of Building 3317 that discharges through CB331707; the drainage area south of Building 3300 (includes sampling location CB330001); the drainage area north of Building 3301 that discharges through CB330102; and a small portion of the facility southwest of Building 2958 that discharges to the nearby City catch basin.

Drainage from the Building 3200 area discharges to the storm sewer to the west and east, but the stormwater runoff from this area is limited to roof drainage and runoff from the administrative parking area and this area does not include industrial activities that would impact stormwater. Note that Alaskan Copper plans to discontinue industrial activities in the drainage area north of Building 3301 later this year when Building 3223 is converted for exclusive retail use (pickup of materials by customers).

LEVEL THREE RESPONSE, ACTION ITEM 2: (Investigate all available options of source control, operational control and stormwater treatment best management practices to reduce stormwater contaminant levels to or below permit benchmark values.)

Alaskan Copper recently revised and updated the Facility SWPPP. The Facility has established the following structural source control BMPs with regard to zinc, copper, turbidity, and TSS:

- Building 3317 has an air outlet that uses a cyclone and baghouse air pollution control system to remove pipe production dust and grit from the air exhaust.
- Stormwater runoff at the facility drains to catch basins that provide a sump for settling of solids and generally include an underflow pipe that allows floating solids and oil to be trapped in the catch basin and removed.

The following operational source control BMPs have been established with regard to zinc, copper, turbidity, and TSS:

- Facility personnel or outside contractors inspect, clean, and maintain areas of the Facility that accumulate dust and other debris. Paved areas are vacuum-swept more frequently as needed, but not less than once per quarter, to minimize exposure of potential pollutants to precipitation and runoff. Sweeping the dirt and associated pollutants from paved areas of the Facility can be one of the most effective stormwater pollutant source control measures, so increasing the frequency of sweeping will be considered any time that stormwater benchmarks are found to have been exceeded.
- Cleaning of vehicles, equipment, or parts is conducted indoors or at an appropriate offsite maintenance facility. However, if for some unknown reason the vehicle or equipment cannot be moved indoors or offsite for cleaning, Facility personnel are to ensure that washing is conducted only where the water will be contained within a catch basin with its outlet drain plugged, and where the washwater will be pumped out to the sanitary sewer system or hauled offsite for appropriate treatment. Drainage of washwater or rinse water to storm drains that discharge to surface water is not allowed.
- Qualified personnel conduct and document monthly visual inspections of the site on the Monthly Inspection Form found in the SWPPP. The stormwater system is inspected for any unpermitted discharges and to ensure it is in good condition. Equipment used at the Facility is inspected to ensure it is in good condition and not leaking fuel, oil, or other liquid. When found to be leaking, equipment is repaired or replaced promptly to prevent contamination of stormwater. Where there is damage noted that does not contribute to immediate stormwater contamination, the equipment or structure is repaired or replaced as soon as is feasible based on the capital costs and time needed to make the changes.
- The pollution prevention team makes near-daily observations regarding the status of potential pollutant sources at the Facility. The SWPPP will be updated if new potential sources are identified and if existing potential sources are eliminated.
- Dumpsters and containers used to store solid waste and garbage (or recyclable materials that could leach stormwater pollutants) are kept under cover, or have lids that are kept tightly closed when not in use.

- All spills of oil, chemicals, or other materials that can contaminate stormwater are stopped, contained, and cleaned up immediately upon discovery. A spill kit is located near the diesel aboveground storage tank. The spill kit contains oil absorbents capable of absorbing 15 gallons of fuel, a storm drain plug or cover kit, a non-water containment boom a minimum of 10 feet in length with a 12-gallon absorbent capacity, a non-metallic shovel, and two 5-gallon buckets with lids.
- Alaskan Copper provides in-house training at least once per year to personnel handling stormwater issues. Training includes a review of good housekeeping BMPs, spill response procedures, and material management practices. The training covers these and other contents of the SWPPP and how employees make a difference in pollution prevention. A log is maintained documenting the dates of this training and the attendees.
- The pollution prevention team reviews results from stormwater monitoring, including the sampling results and visual monitoring, to determine if the benchmark values are met and whether additional BMPs should be implemented to reduce the pollutants in the stormwater discharge. Where there is evidence of pollutants exceeding benchmark levels or visual evidence of pollutant discharges, the pollution prevention team verifies that the SWPPP is being followed and determines the potential sources for the pollutants. The SWPPP is modified, if necessary, to include additional control measures to reduce pollutants entering the stormwater discharge.
- Alaskan Copper conducted roof drain sampling in December 2009 to quantify the contaminants that enter stormwater from Facility roofs and to evaluate the need for potential roof and building paint source control measures. Results are shown in Table 2.
- Portable containers, such as 55-gallon drums containing oils or other liquids that could pollute stormwater, are stored inside buildings.

The Facility has established the following stormwater treatment BMPs with regard to zinc, copper, turbidity, and TSS:

- Facility catch basins have been equipped with catch basin fabric filter inserts. By removing particulates and suspended solids from stormwater, the catch basin inserts act to reduce turbidity, TSS, zinc, and copper levels.
- Catch basin fabric filter inserts are inspected monthly and cleaned or replaced as needed. When insert filters are removed for cleaning or replacement, the catch basin sump is inspected to verify that sediment levels are below 60 percent of the available sediment storage capacity and also to ensure that the debris surface is at least 6 inches below the outlet pipe in order to prevent overflow of accumulated solids out of the catch basin.

In addition to these structural and operational source control and treatment BMPs that have already been established, we investigated additional source control, operational control, and stormwater treatment BMPs for reduction of stormwater contaminant levels to equal to or lower than permit benchmark values. A summary of the effectiveness, implementability, and approximate relative cost of a range of applicable additional BMPs is provided in Table 3.

Following the screening of potential additional stormwater BMPs shown in Table 3, our conclusion is that the BMPs worth additional evaluation and possible implementation at the Facility are:

- Encapsulation by Seal Coating or Repainting Facility Building Roofs and Walls
- Catch Basin Insert and Downspout Filters with Adsorbent Media
- End-of-Pipe Adsorptive Media Filtration System
- Stormwater Capture and Reuse.

Options for implementing these additional stormwater BMPs are discussed in the following section.

LEVEL THREE RESPONSE, ACTION ITEM 3: (Implement additional source control, operational control and stormwater treatment best management practices identified as part of this investigation within twelve months of initiating the level three response.)

The Permit is designed for adaptive management whereby additional stormwater BMPs are to be evaluated and implemented based on results of stormwater monitoring and analysis. This section discusses options for additional BMPs to address zinc, copper, TSS, and turbidity as well as follow-up monitoring to determine if additional BMP implementation is required.

Given the Facility's stormwater sampling results and our evaluation of stormwater BMPs described above and in Table 3, we prepared the following preliminary feasibility analysis and cost estimate for the five most promising BMP alternatives. These alternatives are briefly described below:

- Infiltration: Roof drain and paint chip sampling results (see Tables 2 and 4) indicate that Facility roofs and building exterior walls are significant potential sources of zinc and copper. There is an area of pervious ground directly west of the Facility associated with the railroad spur, which currently receives stormwater runoff from a portion of the Facility and could potentially infiltrate the stormwater from the roofs of Building 3317 and Building 3405. However, it is unclear whether the added volume of stormwater runoff from these building roofs could be infiltrated without causing localized flooding during large storm events. An investigation would be needed to determine the potential for flooding of Alaskan Copper property, as well as flooding of the adjacent property and rail spur. If the investigation finds this to be a viable alternative, roof downspouts could be modified to convey runoff from Buildings 3317 and 3405 to the pervious area west of the Facility. Surface runoff that currently flows to catch basins in the drainage area between Buildings 3317 and 3405 would not likely be routed offsite for infiltration as this would require installation of pumps and conveyance pipes that would disrupt Facility operations during construction and would be much more costly to implement than rerouting roof drain runoff.
- Encapsulation: Encapsulation can be a very effective technology for preventing metals from leaching from metal or painted surfaces (e.g., building roofs and exterior walls) into stormwater. Application of a sealant to roofs and repainting exterior walls would not require extensive design costs, could be implemented quickly by contractors or Facility personnel, and could be implemented in stages in order of priority for roofs and buildings tested to contribute or contain the highest levels of metals. The use of coatings or paint to encapsulate

metals is a demonstrated technology with experienced vendors and coating materials readily available. An example of a potential paint sealant is provided in Attachment 1. The cost would be directly dependent on the encapsulation area.

- Catch Basin Insert and Downspout Filters with Adsorbent Media: Catch basin insert filters that include a metal-adsorbing media are a relatively new stormwater treatment BMP. One such product is available through CleanWay and vendor literature is provided in Attachment 2. A custom blend of adsorbent media employed in catch basin filter inserts and downspout filtration systems can target pollutants specific to the Facility. Vendor and third-party testing of the adsorbent media indicate removal rates of 90 percent or greater for copper and lead, but these products have not yet been widely used or demonstrated to consistently reduce zinc, copper, and turbidity to below benchmark levels, particularly with the new 14 μg/L benchmark for copper. Pilot testing would be necessary to confirm metals removal effectiveness. This alternative could be implemented relatively quickly, with catch basin inserts available within a matter of days and downspout treatment systems available within a few weeks. Additional inserts or downspout systems could be readily added at additional locations in the future if positive results are achieved from pilot testing.
- End-of-Pipe Adsorptive Media Filtration System: Media filtration systems have been developed to remove suspended solids and dissolved metals from stormwater through ion exchange and precipitation processes. Vendors of this type of product include the Contech StormFilter® and the StormwateRx Aquip® system, with the Aquip system being more tailored towards metals removal. Vendor literature for the Aquip system is provided in Attachment 3. This system uses pH buffering and a filter bed of granular adsorptive filtration media and has been installed at multiple shipyards and metals manufacturing/recycling facilities where it has been shown to be effective in removing greater than 90% of copper, zinc, and TSS. These systems are usually installed at the end-of-pipe, unlike the catch basin and downspout filters discussed above that are distributed at multiple locations throughout the drainage area. The Aquip system is usually installed aboveground and would take up some existing facility space. The system would also require installation of a pumping vault, sump pumps, conveyance piping, and power feed to the vault to run the pumps. Therefore, this alternative has a larger capital cost and greater installation time compared to use of downspout filters and adsorptive catch basin inserts. The advantages of the Aquip system are its higher capacity for metals removal, less frequent media replacement, and greater potential to achieve benchmark values for zinc and copper. At greater cost, an ion exchange system can also be added to the end of the Aquip system to further remove metals. That secondary level of treatment may be necessary to consistently achieve the 14 ug/L benchmark for copper.
- Stormwater Capture and Reuse: Stormwater capture and reuse would involve installing stormwater collection vaults, sump pumps, and storage tanks at the Facility to capture roof drain and stormwater runoff in drainage areas that discharge to the storm sewer. The captured stormwater could then be used in the Facility's industrial process in place of the City's potable water supply. The significant advantage of this alternative would be the elimination of the need to treat stormwater for attainment of benchmark levels. It is questionable whether the stormwater treatment technologies described above (or any other reasonable treatment technology) are capable of consistently achieving the new low 14 ug/L benchmark for copper. The cost to implement this alternative would be offset to some extent by reducing potable water usage and cost. However, average Facility process water demand is estimated at 540,000 gallons per year (at an average of 1,480 gallons per day), and average annual stormwater runoff from the approximate one acre drainage area discharging through

CB331707 is approximately 1,000,000 gallons. Therefore, an estimated 460,000 gallons of stormwater would still need to be discharged to either the storm sewer system or the sanitary sewer annually. A contact at King County Industrial Waste indicated King County would not accept new industrial site stormwater runoff for discharge to the sanitary sewer.

Based on the Facility stormwater sampling results, downspout and paint chip testing, and an evaluation of applicable stormwater BMPs, we recommend that Alaskan Copper conduct further investigation into the possibility of rerouting stormwater runoff from the roofs of Building 3317 and Building 3405 to drain to the west side of the buildings with ultimate drainage and infiltration into the adjacent property to the west. If the investigation determines that infiltration would not be feasible, we recommend that Alaskan Copper proceed with encapsulation of sources of zinc and copper in the CB331707 drainage area by applying a coat of sealant to portions of the roofs of Buildings 3317 and 3405. Additionally, we recommend implementing adsorbent media catch basin inserts in the CB330001 drainage area. Because of the previous observations of poor drainage of stormwater out of catch basins in this area and even possible backflow of stormwater into the catch basins, we also recommend an investigation (e.g., video recording) of the drainage mainline just south of this area to determine if an obstruction is causing a backup of stormwater and/or solids. We recommended that Alaskan Copper contact the City regarding investigating and video recording of storm drain pipes in this area, and if the City is not cooperative, to look into the feasibility and cost of contracting for the storm drain video investigation itself.

Roof drain sampling results (see Table 2) indicate that the roofs on Buildings 3405 (upper and lower) and 3317 appear to be significant contributors of zinc and copper to stormwater. The simplest solution may be to convey this roof runoff to a pervious area for infiltration, as discussed above. A more comprehensive investigation would determine drainage details for the adjacent rail spur property to the west. Those drainage details would include whether all stormwater truly infiltrates into the soil in this area, whether high stormwater flows would actually discharge to a storm drain and to a surface waterbody rather than infiltrate, and whether there is a high potential for causing localized flooding at the Alaskan Copper Facility and neighboring property. If the investigation determines that stormwater does infiltrate rather than drain to surface water and that the flooding potential is negligible, then the approach could be to plug roof downspouts on Buildings 3317 and 3405 and direct the stormwater west to added downspouts on the far western edge of the buildings. Future monitoring would determine if eliminating the roof runoff brings the stormwater quality in the CB331707 drainage area below benchmark values. If surface runoff requires further treatment, other alternatives (such as catch basin inserts with adsorptive media) could be added in conjunction with the roof runoff infiltration.

If the investigation determines that infiltration is not feasible, we instead recommend addressing stormwater pollutants in roof runoff by applying a sealant that can be applied to roofing material with

minimal surface preparation (e.g., only pressure washing) and that provides at least a 15-20 year manufacturer design life. The approximate roof areas that drain to CB331707 are 9,600 square feet (ft²) (Building 3405, upper roof), 7,200 ft² (Building 3405, lower roof), and 7,800 ft² (Building 3317).

Paint chip sampling results (see Table 4) indicate that the building exterior walls contain high levels of zinc and copper. It is unknown, however, to what extent zinc and copper leach out of the paint and into stormwater. To minimize cost, we suggest applying the roof sealant as a first course of action. If the roof sealant is independently unsuccessful at improving stormwater quality to meet copper and zinc benchmark values, then the Facility building walls can be painted with paint that is free of heavy metals. The approximate exterior wall surfaces within the CB331707 drainage area are estimated to be 4,900 ft² (Building 3405, upper roof), 2,600 ft² (Building 3405, lower roof), and 5,900 ft² (Building 3317).

We recommend that Alaskan Copper select encapsulation as the preferred alternative (if infiltration is found to be infeasible) because it provides a combination of benefits, including relatively quick implementation, significant potential reduction in copper and zinc in roof drain runoff, and moderate cost, as compared to other alternatives. If properly applied, the sealant and paint should not require any maintenance over its expected 15 to 20 year life span. The CB331707 drainage area is appropriate for initial implementation and testing of encapsulation due to the high level of copper and zinc in stormwater, and due to the relatively small area required for sealing/painting. At an approximate estimated cost of \$2.40 per square foot, sealing the roof areas listed above would cost approximately \$59,000. If repainting of exterior building walls is necessary, at an estimated cost of \$2.40 per square foot, this would result in an approximate cost of \$32,000. A more definitive price quote can be requested from contractors during the investigation of the infiltration alternative, so that if encapsulation is necessary, implementation of sealing/painting would not be delayed. Other Facility roofs and exterior building walls may also be sealed/painted in the future depending on future stormwater sampling results and evaluation of the effectiveness of encapsulation in the initial area.

For the CB330001 drainage area, stormwater sampling results from third and fourth quarter 2009 at CB330001 show levels of zinc, copper, and turbidity above the new benchmark levels that became effective January 1, 2010. However, the relatively low concentrations of zinc and copper from roof drain sampling and paint chip sampling for Building 3300, shown in Table 2 and Table 4, suggest that roofs and exterior building walls may not be the primary pollutant source in this area and do not appear to be causing the exceedance of benchmark values. Therefore, we do not recommend encapsulation of these surfaces. Instead, we recommend pilot-testing catch basin insert filters with metals adsorbent media in each of the catch basins in this drainage area. The adsorbent media and associated filter fabric inserts are relatively easy for the Facility to install and have the potential to significantly reduce levels of zinc, copper, turbidity and TSS at a relatively low cost compared to other treatment options. The three catch

basins in this drainage area would be fitted with a support assembly, a filter fabric insert, and an adsorption filter filled with specially blended site-specific adsorbent media. The support assembly contains a sampling port (see Attachment 2), and should improve the ease of collecting stormwater samples at this location, as compared to the current need to move aside the insert filter fabric prior to collecting a sample.

Additionally, we recommend an investigation of the drainage mainline just south of the CB330001 drainage area. Alaskan Copper and Landau Associates personnel have witnessed backup of stormwater in CB330001 and nearby catch basins, and performance of the new catch basin inserts could potentially be impaired if an obstruction in the mainline is deterring proper drainage of stormwater. Alaskan Copper should coordinate with the City to video record the mainline and clean out any obstruction or repair any pipe damage that could be causing a problem for Alaskan Copper's stormwater discharge.

We recommend adsorbent media catch basin inserts for the CB330001 drainage area for a combination of benefits, including relatively quick implementation, significant potential reduction in both solids and dissolved copper and zinc, and relatively low cost compared to other alternatives. The cost of purchasing and installing three catch basin insert systems for this area is estimated to be \$6,000. Annual adsorbent media replacement costs are estimated to be \$3,000. The only maintenance required (other than regular inspection and maintenance, as required for all Facility catch basins) is periodic replacement of the adsorbent media and filter fabric inserts. The replacement cost above is based on calculations which show that adsorbent media will likely become saturated with heavy metals and need to be replaced once or twice a year. However, media performance and longevity are dependent on many factors, and thorough monitoring of catch basin insert performance will be necessary to determine the actual required replacement frequency. Future stormwater sampling will also be necessary to determine if this technology is adequate in reducing pollutant levels to below benchmark values. Even if found to be effective at removing solids, zinc, and copper, it is uncertain whether these insert adsorptive filters (or any other reasonable treatment technology) would consistently achieve the new 14 µg/L benchmark for copper. Alaskan Copper can consider installing additional catch basin insert and downspout filters at other areas of the Facility in the future if pilot test results are promising.

LEVEL THREE RESPONSE, ACTION ITEM 4: (Prepare a level three source control report outlining actions taken, planned and scheduled to reduce stormwater contaminant levels including stormwater treatment best management practices.)

The portion of the Level Three Source Control Report outlining actions already taken to implement source control and operational BMPs is provided above under Action Item 2. The actions planned and the schedule for implementation is described below in this section.

We recommend completing further investigation into the infiltration alternative, video monitoring of the drainage mainline, and installation of catch basin inserts (if video recording does not indicate the need for cleaning or repairs of the drainage mainline) by March 31, 2010. Implementation of the determined appropriate alternatives (modifications for infiltration or applying sealant to the identified roofs for the CB331707 drainage area, coordination with the City for any repairs to the drainage mainline, and subsequent installation of catch basin inserts) could then likely be completed by June 30, 2010. Pending adequate rainfall, Alaskan Copper can then conduct two or more rounds of stormwater sampling from CB331707 and CB330001 in third and fourth quarter 2010 to evaluate whether the additional BMPs implemented have been effective in reducing stormwater pollutants below benchmark levels. If future sampling results indicate the Facility continues to exceed the Permit's benchmark values then additional metals source control and/or stormwater treatment actions described in this document will need to be considered and implemented.

LEVEL THREE RESPONSE, ACTION ITEM 5: (Submit the Level Three source control report to Ecology within twelve months of initiating a Level Three response.)

Alaskan Copper will submit this Level Three Source Control Report to Ecology. Note that a New Permit took effect on January 1, 2010. The New Permit changes stormwater sampling requirements, eliminates action levels, modifies benchmark values for some parameters, and includes new mandatory BMPs. Alaskan Copper is currently investigating whether a discharge limit of 30 mg/L for TSS due to discharge to a 303(d)-listed waterbody under the New Permit is applicable as well. The actions listed above, once implemented, are expected to reduce zinc, copper, TSS, and turbidity levels in Facility stormwater runoff. Alaskan Copper must, however, continue monitoring to determine if the actions it takes in response to this Report will be sufficient to reduce pollutants to below the benchmark levels set forth in the New Permit. The New Permit also contains a modified set of response action requirements that Alaskan Copper will need to follow if the Facility exceeds the New Permit's benchmark values.

ATTACHMENTS

Figure 1: Vicinity Map Figure 2: Site Map

Table 1: Stormwater Analytical Data

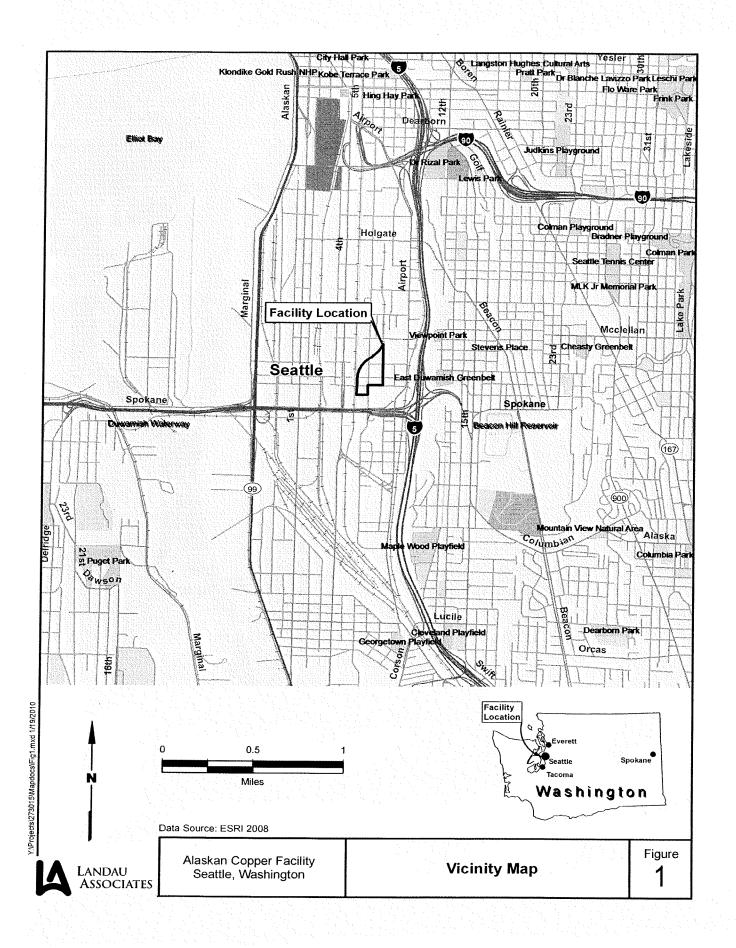
Table 2: December 2009 Roof Drain Sampling Data

Table 3: Evaluation of Potential Stormwater Best Management Practices

Table 4: August 2009 Paint Chip Sampling Data
Attachment 1: Vendor Literature for Encapsulation

Attachment 2: Vendor Literature for Catch Basin Insert and Downspout Filters with Adsorbent Media

Attachment 3: Vendor Literature for Adsorptive Media Filtration System



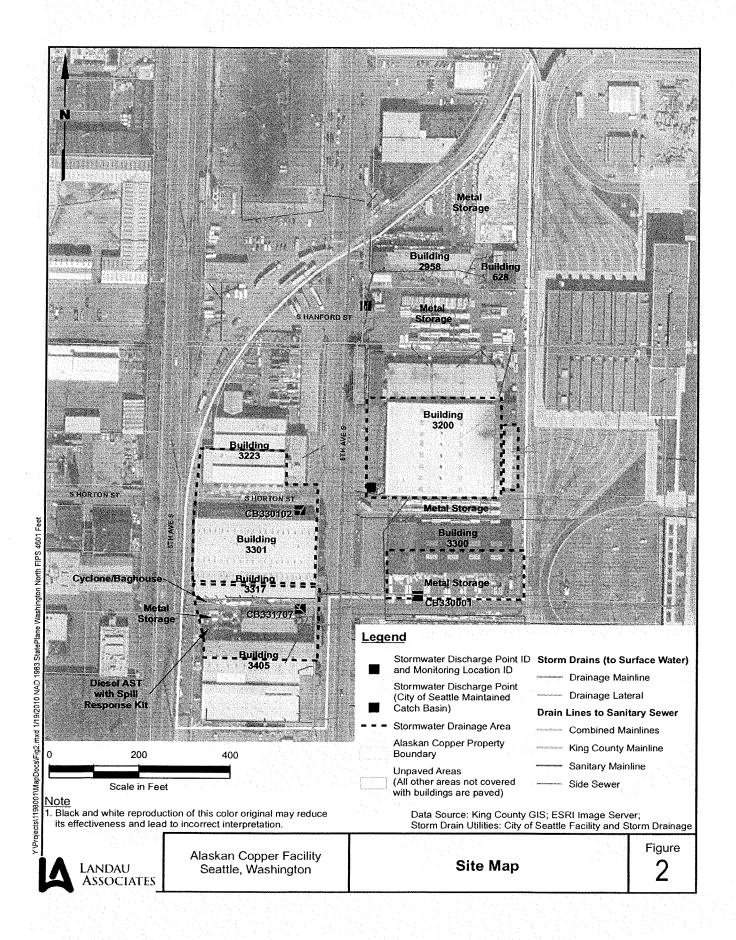


TABLE 1 STORMWATER ANALYTICAL DATA ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

Old		Parameter: Method: Values: (1) (2)	Non-Polar Fats, Oils, Greases (mg/L) EPA-1664 15	Turbidity (NTU) EPA-180.1	pH (std units) Field 6 - 9	Total Zinc (μg/L) EPA-200.7 117	Total Copper (μg/L) EPA-200.7 63.6	Total Lead (μg/L) EPA-239.2 81.6	Hardness (mg/L) SM-2340B N/A	TSS (mg/L) SM-20 30
		Levels: (1) (2)	30	50	5 - 10	372	149	159	N/A	45
		marks: (1)(3)	N/A	25	5-9	117	14	81.6	N/A	30
Departing Ot	Sample	Laboratory	·	,						
Reporting Qtr 4th Qtr 2004		Identification								
(12/29/04)	(1707)	412269	16.7	150	8.1	1,100	1200	71	71	
	Current inc	lustrial stormy	vater permit benc	hmark and ac	ction levels a	pply beginni	ng with the	st quarter of	f 2005	
1st Qtr 2005										
2nd Qtr 2005			~							
3rd Qtr 2005 (7/22/05)	*CB331707 (1707)	507211	< 5.0 U	45	7	640	470	40	48	
4th Qtr 2005										
1st Qtr 2006										
2nd Qtr 2006	***									
3rd Qtr 2006						***				
4th Qtr 2006										
1st Qtr 2007										
2nd Qtr 2007 (6/15/07)	*CB331707 (1707)	M116736	7	33	6.3	773	432	33	61	
3rd Qtr 2007								**		
4th Qtr 2007	*1707	M01283	< 2.0	25	6.33	1,030	304	18.5		
1st Qtr 2008					1		1	1		
2nd Qtr 2008						***				
3rd Qtr 2008 (8/18/08)	*1707	M120311	12.6	34		1,200	403		76	
4th Qtr 2008 (12/09/08)	*1707	M03417	30	42.5	7.39	1,300	696	2.88	103	
1st Qtr 2009 (3/19/09)	*1707	M03867	6.54	45.3	6.66	1,390	418	27.9	67.2	
2nd Qtr 2009 (6/18/09)	*1707	M04260	14.5	54.1	6.48	360	351	16.2	167	
3rd Qtr 2009 (8/11/09)	CB331707	908066	2.29	14.4	6.91	1,250	210	4.4	52.8	10
3rd Qtr 2009 (8/11/09)	CB330001	908067	3.96	29.6	6.81	253	209	14.6	32.4	23
4th Qtr 2009 (12/15/09)	CB331707	912133-01	9.37	39.3	6.97	1,120	414	27.8	33	87
4th Qtr 2009 (12/15/09)	CB330001	912133-02	3.37	26.0	6.89	143	146	25.3	15	60

Notes

= Exceedance of benchmark (2), (3).

Red Value = Exceedance of action level (2).

mg/L = milligrams per liter.

 μ g/L = micrograms per liter.

-- = Sample not collected this quarter.

Qtr = Quarter.

 $1/29/2010P:\c 1/23\c 1/28-10.x\c 1/28-10$

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U = Compound was analyzed for, but was not detected at the reported sample detection limit.

^{* = 4}Q08 field notes indicate that CB331707 reported on 4Q04, 3Q05, and 2Q07 DMRs is the same as 1707, which was reported on 4Q08 and 1Q09 DMRs.

TABLE 1 STORMWATER ANALYTICAL DATA ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

Notes (Continued)

- (1) A new Industrial Stormwater General Permit became effective 1/1/2010 and contains modified benchmarks and response actions.
- (2) Level One Response: Each time after December 31, 2004 quarterly sampling results are above a benchmark value or outside the benchmark range for pH, the Permittee shall initiate a Level One Response in accordance with the Industrial Stormwater General Permit. Level Two Response: After December 31, 2004, if any two out of the four previous quarterly sampling results for a parameter are above action levels, the Permittee shall initiate a Level Two Response in accordance with the Permit. Level Three Response: If any four quarterly samples collected after December 31, 2004 are above action levels, the Permittee shall initiate a Level Three Response in accordance with the Permit.
- (3) Effective 1/1/2010, if a Permittee exceeds an applicable benchmark value, the following actions must be taken, in accordance with the new Industrial Stormwater General Permit:
 - Level One Corrective Action: Permittees that exceed any applicable benchmark value shall complete a Level One Corrective Action for each parameter exceeded.
 - Level Two Corrective Action: Permittees that exceed an applicable benchmark value (for a single parameter) for any two quarters during a calendar year shall complete a Level Two Corrective Action.
 - Level Three Corrective Action: Permittees that exceed an applicable benchmark value (for a single parameter) for any three quarters during a calendar year shall complete a Level Three Corrective Action.

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TABLE 2 DECEMBER 2009 ROOF DRAIN SAMPLING DATA ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

2010 ISGP Ber	Parameter:	Total Copper (µg/L) 14	Total Zinc (µg/L) 117
Building and Area	Sample ID		
3300, south side	RD3300S	3.90	30.6
3317, south side	RD3317S	10.1	3,340.
3405, upper roof	RD3405U	4.09	108
3405, lower roof	RD3405L	171	155
3200, west side	RD3200W	9.47	349

Notes

= Within 10 percent of the benchmark value.

= G

= Greater than the benchmark value.

TABLE 3 EVALUATION OF POTENTIAL STORMWATER BEST MANAGEMENT PRACTICES ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

Stormwater Management/ Treatment Options	Effectiveness	Implementability	Relative Cost	Relative Ranking
Seal Coat or Repaint Facility Building Roofs and Walls	effective in minimizing paint chips from peeling paint. However, not effective to the extent that zinc and copper in roof drain questions for the period of the copper in roof drain questions.	iniace diffind a neriod of no precipitation. I estind in i	Due to the large surface area of buildings at the Seattle Facility, the capital cost would be relatively high to seal all surfaces. However, all surfaces might not require sealing if sampling results show that certain areas are of greater concern than others. If proper materials are selected, then maintenance cost should be relatively low.	1 · · · · · · · · · · · · · · · · · · ·
Infiltrate Stormwater by Modifying Stormwater Conveyance Structures and Directing Stormwater to Pervious Areas	associated pollutants out of stormwater. Roof runoff could be rerouted to nearby off- property pervious areas via gravity, but surface runoff into catch basins could only	It is undetermined whether there is sufficient pervious area west of Alaskan Copper property to infiltrate the volume of stormwater produced. Potential flooding of Alaskan Copper or neighboring property would need to be investigated prior to implementation.	Roof downspout modifications and additional required conveyance pipe would be relatively inexpensive. Periodic inspection would be needed to ensure that stormwater is being conveyed and infiltrating properly, but maintenance costs should be low.	2
Catch Basin Filtration Inserts and Downspout Filtration Systems with Adsorbent Media (CleanWay®)	Testing results from the vendor of this adsorbent media indicate good removal of heavy metals. However, testing data is limited.	The insert and downspout systems are easily installed. As a relatively new technology, it would need to be pilot tested to confirm filtration flow rate capacity; levels of zinc, copper, and turbidity reduction; and media pack replacement frequency.	Relatively low to moderate capital cost. O&M costs (for adsorbent media replacement) are estimated to be relatively high. Accurate frequency of media pack replacement and associated costs would need to be determined from pilot testing.	3
Adsorptive Media Filtration System (StormwateRx Aquip®)	Uses pH buffering and a filter bed of granular adsorptive filtration media. The StormwateRx Aquip® system has been installed at multiple shipyards and metals manufacturing/recycling facilities and has been shown to be effective in removing copper, zinc, and TSS down to low levels.	Units are usually installed aboveground and would take up some existing space. Would also require installation of pumping vaults, sump pumps, conveyance piping, and power feed to the vaults/pumps.	The estimated capital cost is considered to be moderate to high. Typically requires annual media replacement. Operational cost is considered moderate relative to other treatment alternatives and would depend on TSS loading, which affects media plugging and replacement frequency.	4
Stormwater Capture and Reuse	Alaskan Copper currently uses potable water for stainless steel passivation process and discharges to the King County sanitary sewer under a Waste Discharge Permit. Using stormwater instead of potable water for that process would reduce stormwater discharge. However, the process demand is less than the volume of stormwater generated.	Storage of stormwater would require large aboveground tanks and a system to transport stormwater to the area of industrial use. Even though stormwater pollutants are below pretreatment levels for discharge to the sanitary sewer under Alaskan Copper's existing permit, King County will likely not allow an increased discharge volume to the sanitary sewer.	Moderate capital cost for the storage infrastructure and low to moderate maintenance costs to transfer the stored water to the point of use. There would be some offset to cost by reducing potable water usage.	1

TABLE 3 EVALUATION OF POTENTIAL STORMWATER BEST MANAGEMENT PRACTICES ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

Stormwater Management/ Treatment Options	Effectiveness	Implementability	Relative Cost	Relative Ranking
Infiltration Below Ground	Construction of an infiltration gallery could eliminate stormwater discharge if soil infiltration rate is determined to be adequate. Shallow depth to groundwater and/or tight soil type could limit the infiltration rate. Infiltration testing would be required.	Would require underground injection control registration and approval if infiltration piping is used. Would involve removing and restoring large areas of asphalt pavement to install infiltration trenches. Metals in stormwater might not always be at concentrations protective of groundwater.	Capital cost is expected to be moderate to high to install infiltration system. Operating cost is expected to be low to moderate with periodic need to rehabilitate clogged infiltration trenches.	6
Electrocoagulation	Testing at industrial sites indicates that an electrocoagulation system would act to remove both suspended solids and dissolved metals. However, this type of system has not yet been used extensively for stormwater treatment due to its high cost.	to be constructed at the Facility. The system requires skilled operator attention for continued	The capital cost of an electrocoagulation system is relatively high and may require pilot testing, treatment system building, and system installation. The estimated O&M costs are moderate to high considering operator labor and electrical power costs.	7
Install a Roof Over Outdoor Material Loading/Unloading and Storage Areas		A roof structure would need to be high enough to allow for the necessary truck traffic. Would face hurdles to acquire the necessary City building permits.	High capital cost. Moderate operational cost due to roof maintenance and possible need for additional lighting.	8
Discharge to Sanitary Sewer	Assumed design to capture a 2-year, 24-hour storm event would nearly eliminate stormwater discharges to surface water. Would likely require installation of a storage tank for holding capacity and to limit peak discharge flow rate.	Implementation would likely be very difficult, if not impossible. King County has indicated that it will not issue discharge permits for new stormwater discharge to their wastewater treatment plant.	Moderate to high capital cost for installation of a stormwater pump, aboveground storage tank, and flow control device. Sewer discharge fees would need to be confirmed with King County, but with minimal expected maintenance costs, the operational costs would be moderate.	9
	Can be effective at settling and removing moderate to large diameter suspended solids and at minimizing re-entrainment of solids during larger storm events. Not effective at settling small or colloidal particles or removing dissolved metals.	Requires installation of a vault structure underground, either in-line or off-line of the existing storm drain pipe. Requires periodic inspection and at least annual cleanout.	Moderate capital cost for vault and installation. Relatively low operating cost to cover inspection and vactor truck servicing.	10
Gravity-Flow Porous-Concrete Filter System (ecoStorm Plus®)	Testing results from the vendor of this proprietary filter unit indicate good removal of heavy metals, suspended solids, and associated pollutants. However, testing data is very limited and ability to achieve benchmark values is unknown.	The manhole-type modified concrete filtration system can be installed underground and operates by gravity flow. As a new proprietary technology, it would need to be pilot tested to confirm filtration flow rate capacity; levels of zinc, copper, and turbidity reduction; and concrete filter unit replacement frequency.	Moderate capital cost for filter system and installation. Low to moderate operating cost, depending on the determined frequency of concrete filter panel replacement.	11

TABLE 3 EVALUATION OF POTENTIAL STORMWATER BEST MANAGEMENT PRACTICES ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

Stormwater Management/ Treatment Options	Effectiveness	Implementability	1	Relative Ranking
Bioswales	moderately enhanced filtration and sedimentation of solids. Unlikely to achieve	Because of grade and space limitations at the existing Alaskan Copper property, pumps would likely be required. Swales would take up significant portions of the existing property.	Moderate capital cost. Relatively low maintenance cost.	12
Detention Pond/Wet Pond	pond to consistently achieve benchmarks at	property and a new stormwater conveyance	The capital and annual costs would be considered high given the reduction of property area available to the Facility.	13

TABLE 4 AUGUST 2009 PAINT CHIP SAMPLING DATA ALASKAN COPPER FACILITY SEATTLE, WASHINGTON

Building and Area	Sample ID	Total Copper (mg/kg)	Total Zinc (mg/kg)
628, south wall	M123200A (628)	69.4	16,100
2958, north wall	M123200B (2958)	401	17,100
3200, north wall	M123200C (3200)	3,000	31,400
3223, south wall	M123200D (3223)	17.3	9,410
3300, west wall	M123200E (3300)	10.1	314
3317, south wall	M123200F (3317)	55,100	90,500
3405, north wall, lower	M-04489	272	72,000
3405, north wall, upper	M123200G (3405)	328	117

<u>Notes</u>



⁼ Areas with possible stormwater runoff.

⁼ The value reported exceeded the calibration range established for the analyte, and the reported concentration should be considered an estimate.

Vendor Literature for Encapsulation



CONCOUNTS ASBESTOS

CONCOUNTS

CONCOUNTS

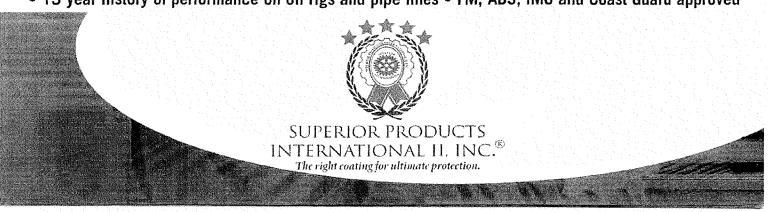
CONCOUNTS

ASBESTOS

CONTO

ONE-COAT ENCAPSULATION PATENTED METHOD OF ABATING BIO-HAZARDOUS MATERIALS NO WHITE-SAND BLASTING NEEDED

- VTEC LABS certified penetration of 18 layers of existing lead-based paint
- Endures 29,700 rub cycles without exposing existing lead-based paint
- Passed 2000 hour salt spray test Test "5" on Flame Spread (0-25 Class A)
- Meets EPA Guidelines USDA approved for use on surface areas in and around food preparation
- 15 year history of performance on oil rigs and pipe lines FM, ABS, IMO and Coast Guard approved



RUST GRIP offers a simple solution for true encapsulation—a one-coat system that can be applied over a variety of surfaces that meets or exceeds stringent registrations, certifications and testing.

REDUCED SURFACE PREPARATION AND APPLICATION COSTS

- Requires only 1,500 to 3,500 psi power wash (with minimal hand or power tooling) to clean and prepare surface; no white metal or near white metal blast is required
- Can be applied over flash or surface rust without loss of adhesion or reduced performance; can be applied over existing paint (non-glossy, solidly-bonded)
- Can be re-applied or touched up with minimal surface preparation
- Has been applied directly over rusted surface and after 3 years, pull test of 580 PSI compared to 100 PSI before coated.

HIGH SURFACE TENSILE STRENGTH

- 6,780+ psi surface tensile strength after three weeks
- Penetrates deeply into pores of substrate and existing coating to "anchor into" and seal surface
- No other corrosion coatings have the surface tensile strength of RUST GRIP* at the recommended thickness of four (4) dry mils

APPLIED TO MANY SURFACES

RUST GRIP protects and seals new or rusted steel, aluminum, concrete, wood, fiberglass, traditional coatings and existing paint films including lead-based paint, asbestos, and other substrates. RUST GRIP can be applied directly to concrete.

ONE COAT SYSTEM

RUST GRIP is easy to apply using a brush, roller, or airless sprayer. RUST GRIP was designed as a one-coat system, but serves as a primer and/or topcoat.

RUST GRIP is a 60% less costly alternative to the traditional 3-part zinc rich primer-cpoxy-urethane system being used over bridges and other steel structures.

RUST GRIP is a one-coat application using two passes before moving the set up.

COST EFFECTIVE

Using RUST GRIP replaces traditional 3-part system at a fraction of the time and cost.

3-part System vs. RUST GRIP 3-part System Steps 1. White Sandblast \$2.50/saft 2: Primer \$0.30/saft of product 3. Intermediate S0.30/sqft of product S0.30/saft of product 4. Top Coat 5. 3 - Laborers S0.50/labor = \$1.50/sqft Total \$4.90/sqft. RUST GRIP SYSTEM 1. Power Wash S0.45/saft 2. RUST GRIP application S0.65/sqft 3. 1 - Luborers \$0.50/lubor = \$0.50/sqft Total \$1.60/sqft. Advantage RUST GRIP 67% Less Expensive

LIMITED SURFACE PREP

RUST GRIP applies directly over existing, firmly bonded paint or rust without loss of performance.

3-part systems normally require a white metal blast (SSPC SP-5) or a near white blast (SSPC SP-10). Blasting is the greatest expense using the 3-part system. RUST GRIP will greatly reduce the over-all cost of a project.

WITHSTANDS EXPOSURE TO CAUSTIC ENVIRONMENTS

RUST GRIP has performed in the petrochemical environments for over 15 years.

It can be submerged in 100% Nitric Acid without any negative effects.

It can line gasoline or solvent storage

Designed to resist acids, salts, and caustics with no loss of integrity.

PATENTED ENCAPSULANT

- Encapsulates rust, lead-based paint, asbestos, and bio-hazardous materials. Patent #5,695.812
- Eliminates abatement of lead-based paint.

MOISTURE MEMBRANE

- Permanent, protective membrane that stops water penetration over metal, concrete, masonry, and wood surfaces (not for total immersion). Passed ASTM testing for Water-Barrier and Wind Driven Rain Testing.
- Prevents surface deterioration, contamination, and resists the formation of mold and mildew.

CLASS "A" FIRE RATING

Will help to decrease and not contribute to the spread of a fire.

• Tested "0" Flame Spread and "5" Smoke

ONE-PART COATING

- No pot life constraint; no two-part mixing
- UV controlled

USDA APPROVED

For use in and around food preparation areas.

HIGH SURFACE TENSILE STRENGTH

Achieves a surface tensile strength of 6780+ psi after 3 weeks cure time.

LONG-TERM DURABILITY-CHEMICAL AND ACID RESISTENT

- No loss in performance characteristics or durability over life span
- 15-20 year life expectancy in the harshest environments

REGISTRATIONS, CERTIFICATIONS, AND APPROVALS

USDA Approved US Coast Guard Approval ABS (American Bureau of Shipping) Approval IMO (International Marine Organization) Approval FM (Factory Mutual) Approval

Louisiana Department of Transportation

Approved for use on Qualified Products List Passed 1500 hour Salt Fog Test

Mississippi Department of Transportation

Approved for use on Qualified Products List

Tennessee Department of Transportation

Acceptable for encapsulation of galvanized guardrails

University of Kentucky

Acceptable for encapsulation of steel bridges for Kentucky Department of Highways

Georgia Department of Transportation

Field tested by applying RUST GRIP directly over the steel structure and concrete support columns to fill and scal the voids and gaps in the surface tying the structure together.

The bridge when new was built and tested to a 10 ton load capacity. After years in service, it dropped to only a 3 ton capacity caused by deterioration. Surface and structural repairs were made and RUST GRIP was applied to the entire surface of the metal and concrete surfaces. Four months later, a new evaluation was made of the structural strength of the bridge, which was found to have a 21 ton load capacity.

Environmental Protection Agency (EPA)

Meets EPA Guidelines

Ecopetrol Oil Certification

Specifications into tanks, pipes, facilities, and equipment uses Engineer - Henry Lizeano Paez, Ingerioro do Corrosion

ASTM TEST LISTINGS:

B 117 - 450 Hour Salt Spray (fog) RUST GRIP over black steel

C 411 - 96 Hour Hot Surface Performance

Tested at 147 C / 297 F for 96 Hours No ignition, smoking, smoldering, or color change

D 257-99 D-C Resistance of Insulating Materials

Volume Resistance - Average - 2.683E+12 Volume Resistivity - Average - 5.263E+15

D 1308 Chemical Resistance

D 1653 Water Vapor Transmission

D 2794 Direct Impact Resistance

D 3273 Mildew Resistance

D 3359 - Adhesion and Penetration

Penetrates 18 layers of lead-based paint. Rated 5A = Excellent

D 4060 - 1000 Cycles Tabor Abrasion

1000 Cycles with a CS 17 Wheel, 1000 gram load 18 milligrams loss per 1000 cycles, rated Excellent

D 4541 - Pull-off Strength of Coatings **Using Portable Adhesion Testers**

Average of 10 pull tests was 1467 psi.

D 6904 Resistance to Wind-Driven Rain for Exterior Coatings Applied to Masonry

Test Procedure: Testing was conducted in accordance with ASTM D 6904 except no block filler was used. The coating was applied in two coats. Each coat was approximately 4 mils wet film thickness with a minute dry between coats. The coating was allowed to cure for twenty-one days before testing was conducted.

Conclusion: The coating conforms to the requirements of the superseded Federal Specification TT-C-555B, as tested.

G 85 Prohesion

- 1500 Hours Salt Fog
- Rated 9 (out of possible 10 rating)
- State of Louisiana Department of Transportation

D 7088 Resistance to Hydrostatic Pressure for Coatings Used in Below Grade Applications Applied to Masonry

Objective: To evaluate the hydrostatic pressure resistance of a submitted water-proof coating.

Procedure: RUST GRIP applied to exterior of 8" masonry cube having 1" thick walls. Allowed to dry for 21 days. Testing was conducted at 4 psi, as outlined in the method. Conclusion: The sample of RUST GRIP does not exhibit any water droplets or blistering when tested. The sample conforms to the requirements as stated in the Federal Specification TT-P-1411A Paint, Copolymer-Resin, Cementitious for Waterproofing and Masonry Walls.

Test	Requirement	Results
Blistering	None	None
Adhesion Loss	None	None
Softening	None	None
Discoloration	None	None
Water Droplets	droplet size o maximum	Passed

E 84 Surface Burn - "5" Spread

E 108-00 Spread of Flame on Pitched Roofs

- Class "A" Non-Combustible

E 903-96 Spectral Reflectance

- Average of 3 Tests = 44.6 Solar Reflectance

E 1795 – Encapsulation of Leaded Paint

- Direct Impact Resistance (ASTM D 2794)
- Adhesion (ASTM D 3359, D 4541)
- Dry Abrasion Resistance (ASTM D 4060)
- Water Vapor Transmission (ASTM D 1653)
- Flexibility Mandrel Bend (ASTM D 522)
- Distilled Water Resistance Immersion 24 Hours -.010" Timplated Steel (ASTM D 1308, D 3359)
- Steel or Aluminum (ASTM D 1308, D 4541)
- Chemical Resistance 24 Hours-12 Reagents
- Spot Test on Glass (ASTM D 1308)
- Surface Burning Characteristics (E 84)
- Volatile Organic Content (VOC)
- (ASTM D 2369, D 4017, D 3960, D 1475)
- Weathering (1000 Hours)
- Aging (Interior and Exterior)
- Scrub Resistance (ASTM D 2486)
- Black Plastic No Break through after 12 cycles
- Mildew Resistance (ASTM D 3273, 3274)
- Tensile Properties (6780 psi. after 3 weeks)
- Visco-Elastic Properties (ASTM D 2370)

OTHER LABORATORY TESTING:

Window Cycling Test - VTEC Laboratories - New York

Preparation: RUST GRIP was used to encapsulate a double-hung window removed because of having LBP (leadbased paint.) A machine was devised to use an electronic opening and closing rotary wheel with a digital counter specifically for this test. This allowed the window to be opened and closed at two second intervals. Procedure: The test was designed to measare friction wear of a coating over LBP to find the failure point of friction wear that would expose the hazardous LBP. The tested window completed 20,000 cycles of opening and closing, which is equal to the opening and closing of a window once a day, every day for 54 years.

Conclusion: A visual inspection showed no wear or friction burn through, and no LBP exposed after 20,000 cycles. Wiping test with a sterile gauze pad proved no LBP.

Testing for ABS (American Bureau of Shipping), IMO (International Maritime Organization and US Coast Guard Approval:

IMO A. 653 (16) Flame Spread MSC 41 Smoke Toxicity

ASTM B 117, D 1653, D 522,

D 3359, & E 1795

China Center for Technical Testing:

National Measurement M0729
GB/T 1771-91
Resistance to Salt Fog (2000 hours)
GB/T 1866-88
Manuel Aging (2000 hours)
GB/T 10834-88
Resistance to Salt Water (1000 hours)
GB/T 5219-85
Adhesion (pulling apart method)
GB/T 1733-93
8 Hours Boiling Water

Thermal Analysis:

NETZ SCH STA 409 PC/PG DSC Rating: resin burnout, 303c, 404c and 521c

CHARACTERISTICS:

- Silver-Gray in color
- Moisture Cure Polyurethane
- Cures to 6780+ psi tensile strength
- Recoat window: 1 hour to 24 hours without profiling surface (according to current temperature and humidity)
- Impact Resistant
- Can be used to encapsulate asbestos and lead-based paint.
- Aluminum metallic base
- Permeability: 0.22 perms
- Dries to touch in 2 hours at 70° F
- 50% solids by weight
- 51.37 solids by volume
- VOC Level is 414 grams per liter
- Very good chemical resistance, but not recommended for use with ammonia
- UV controlled and is not affected by most caustic environments.
- Currently used on bridges and guardrails to encapsulate lead-based paint and galvanized metal.
- Can withstand electrical currents without losing adhesion. (important for underground pipes and tanks)
- Shelf Life: Up to 3 years (unopened) under appropriate storage conditions.
- 15-20 years life expectancy when properly applied.

LIMITATIONS:

Silver-Gray in color. It cannot be tinted due to the aluminum pigments which gives it it's strength and durability. It can be top-coated in the color desired anywhere between 1 to 24 hours (according to current temperature and humidity).

Surfaces must be totally dry. It cannot be used over wet or moist surfaces.

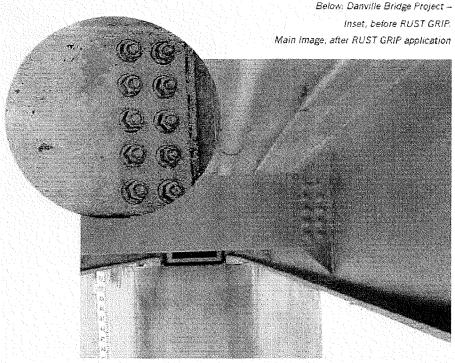
Not for use in situations of constant underwater immersion. It can be used as a primer for epoxies and other coatings made for total immersion.

Not recommended for use around high ammonia levels. It can be used as a primer coat for other coatings.

Not for use on food preparation surfaces that are in <u>direct contact with foodstuffs</u>.

RUST GRIP is USDA approved for use around foods, food preparation and facilities.

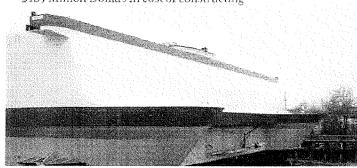
RUST GRIP cannot be applied over pack-rust or scale. This must be removed as it tends to hold and hide moisture. Tight surface rust, up to 1/8th inch, that is totally dry can be coated with no problems.



RUST GRIP® FIELD APPLICATIONS

Michigan City, Indiana - Blue Chip Casino Boat

Largest Casino Boat Built in US \$163 Million Dollars in cost of constructing



Bare, rusted, 1 year old steel used for Casino Boat before coating. RUST GRIP was applied directly over all existing rusted steel before any other coatings were applied.

A power-wash was done to remove dirt and residue, then RUST GRIP was applied as a primer over the entire interior and exterior dry surface.

Coating of the Casino Boat was completed using RUST GRIP over its entirety, then using Super Therm, Moist Metal Grip, Lining Kote, and Enamo Grip, as top coatings in specific areas.

No white metal blast was required before coating. Problems of corrosion and insulation were both solved by using Superior Products International II, Inc. coatings.

Vinton, Louisiana Bridge

Coated with RUST GRIP in April, 1996 for testing in a salt air, warm, highly humid environment, along with other competitor's products. RUST GRIP appears and performs the same today (March 2007) as when the bridge was originally coated.

Other competing corrosion coatings failed.



Coated with RUST GRIP in November, 2003 for testing in a salt air, warm, highly humid environment.

RUST GRIP was applied with both brush and roller over the rusted surface with no surface preparation.

RUST GRIP appears and performs the same today (March 2007) as when the bridge was originally coated.

Miami, Florida Bridge

Coated in 2001, RUST GRIP was applied by brush and roller over the rusted surface of the bridge with no surface preparation except that pack-rust and scale was removed.

RUST GRIP was applied to all metal and concrete in this applieation.

Caustic and Corrosion Tank

Preparation of steel substrate by high pressure water blast and Xylene wipe to ensure a clean, dry, sound substrate ready to apply RUST GRIP.

RUST GRIP was applied as both a primer (base-coat) and a top coat on the inside and outside of the tank for long lasting protection.

Panama Canal - Pedro Miguel Locks

Coated in 1998, RUST GRIP was applied to the rusted upper portion of the lock gates of the Canal in Gatun. The poppet valves and various related components were coated as well.

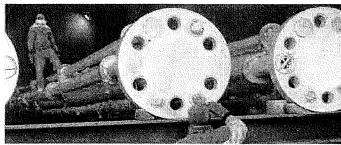
In 1999, RUST GRIP was applied to the new valves and lock gates for protection.

As of February of 2007, all surfaces coated with RUST GRIP are still in good condition and no corrosion is occurring.

Morrow, Georgia - Cobb County Bridge

A county bridge was downgraded from a 10 ton load capacity to a 3 ton load capacity, due to rust and deterioration of the substructure. After replacing some of the original deteriorated substructure, the entire steel structure and concrete was coated with RUST GRIP. The State's re-certification process upgraded the bridge to a 21 ton load capacity. The bridge superintendent stated that much of the increase in load capacity was due to RUST GRIP strengthening both the concrete and steel.

Nigeria Offshore Applications



This project involved pipes used for offshore oil drilling operations, subject to cycles of immersion underwater and storage on deck.

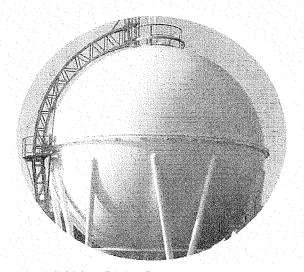
The environment of the application which involved years of exposure to saltwater, salt spray, sun and abrasion and included temperatures ranging from 40° to 250° F, caused excessive deterioration of the original coating, which had been applied four years prior.

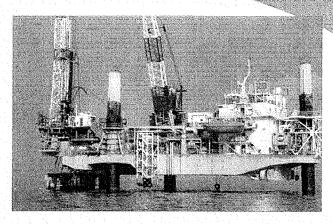
Steps of the application included sand blasting to SSPC-SP6, surface cleaning and chloride removal, two coats of RUST GRIP, two coats of MOIST METAL GRIP, and two coats of ENAMO GRIP white.



INTERNATIONAL AREAS OF BUSINESS ACTIVITY

Asia: Japan • China • Taiwan • Korea • Malaysia • Singapore • Indonesia • Russia • Kazakhstan Europe: Italy • Germany • France • Belgium • Netherlands • Greece • Spain Middle East: Saudi Arabia • UAE • India • Turkey South America: Venezuela • Colombia • Brazil • Argentina Central America: Mexico • Panama Africa: Egypt • Nigeria Australia • New Zealand • Canada • U.S.A.





RUST GRIP® WILL COVER ANY RUSTED AREA TO STOP AND CONTROL CORROSION

This one-part polyurethane coating encapsulates and holds a patented process to stop the progression of rust, corrosion, lead-based paints, asbestos and other bio-hazardous materials. RUST GRIP* may be applied to metal, concrete, or wood and is extrememly easy to use, fast and labor saving.

RUST GRIP^a is tested to penetrate up to 18 coats of existing lead-based paint.

RUST GRIP IS EASY TO USE, FAST AND LABOR SAVING—ELIMINATING SANDBLAST PREPARATION





Technical Data Sheet (04/13/09)

DESCRIPTION

RUST GRIP® is a tough, one-part polyurethane coating that absorbs atmospheric moisture to cure. RUST GRIP® is loaded with a metallic pigment for strength and is also resistant to chemical solvents and acid splash. Upon curing, RUST GRIP® provides a protective coating film of superior adhesion and flexibility, and is resistant to abrasion and impact. RUST GRIP® can be used as a primer or as a one-coating system. It is patented to encapsulate lead-based paints and other toxic materials, including asbestos. RUST GRIP® can be applied over pressure-washed, dry flash rust and firmly bonded commercial paints. In most cases, a white or near-white blasting is not required.

- Good acid and very good alkali resistance.
- As a coating to encapsulate rust, lead-based paints and other hazardous materials.
- As a protective coating on metal, concrete, wood, etc. to add strength and prevent deterioration.
- As a one-coat system on new or existing bridges, oil platforms, roofs, and other commercial/industrial surfaces with minimal surface preparation.
- As a moisture protective membrane to stop moisture penetration, contaminants, and mold and mildew.

APPLICATION METHODS

RUST GRIP® can be applied to concrete or masonry substrates. The coating can be applied by spray, brush or roller. For specific instructions on surface preparation, mixing and application, please refer to the SPI's application instructions for RUST GRIP® (millage may vary due to surface profile).

TEST AND CERTIFICATIONS

- Tensile Strength (6,780 psi after 3 weeks)
- USDA approved
- Marine approvals for salt water/maritime user:
 - DNV (Det Norske Veritas)
 - ABS (American Bureau of Shipping)
 - IMO (International Maritime Organization)
 - US Coast Guard
- Factory Mutual approval
- E-108-00: Spread of flame on pitched roofs (Class "A" non-combustible)
- G85: Prohesion over rusted metal
- Mildew Resistance excellent (ASTM D3273, 3274) Chemical Resistance (24 hours/12 reagents)
- Flexibility (Mandrel Bend: ASTM D522) 1/8"
- Direct Impact Resistance (ASTM D2794)
- Adhesion (ASTM D3359, D4541)
- Water Vapor Transmission (ASTM D1653)
- Surface Burning Characteristics (E84)
- 14. Weathering (2000 hours) China
- 15. Scrub Resistance (ASTM D2486)

PHYSICAL DATA

- Solids: By weight 62.2% / By volume 51.4%
- 30-60 MINUTES TO TACK FREE AT 70°F (21°C)
- Overcoat window is three hours or less at 70°F (21°C)
- Lead and chromate free
- Hygroscopic: Cures by absorbing moisture in the air
- Weight: 9.8 lbs. per gallon
- Moisture-cure Polyurethane
- Shelf Life: Up to 3 years (unopened) under appropriate storage condition (see MSDS)
- One component coating; No curing agent needed
- VOC Level: 400 grams/liter
- Silver-gray in color; not available in colors

temperatures greater than 325°F (163°C)

- Resistant to most solvents, chemicals and some acids
- Maximum Surface Temperature when applying; 150°F (65°C)
- Minimum Surface Temperature when applying; 50°F (10°C)
- Maximum Surface Temperature after curing; 325°F (163°C) Failure will occur at a constant temperature equal to or greater than 325°F (163°C); consult SPI for intermittent

SAFETY PRECAUTIONS

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. measures may include, without limitation: proper ventilation, use of proper lamps, wearing of protective clothing and masks, tenting, and proper separation of application areas. This coating is flammable. Keep away from fire, or other sources of ignition. For more specific safety procedures, please refer to the RUST GRIP Material Safety Data Sheet. KEEP OUT OF REACH OF CHILDREN.

LIMITATION OF LIABILITY: The information contained in this data sheet is based upon tests that we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the products made by SPI, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge is reliable. The products and information are designed for users having the requisite knowledge and industrial skills, and the end-user has the responsibility to determine the suitability of the product for its intended use.

SPI has no control over either the quality of condition of the substrate, or the many factors affecting the use and application of the product. Therefore, SPI does not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

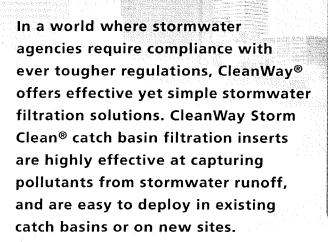
The information contained in this data sheet is subject to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues and the user has the responsibility to ensure that this sheet is current prior to using the product.

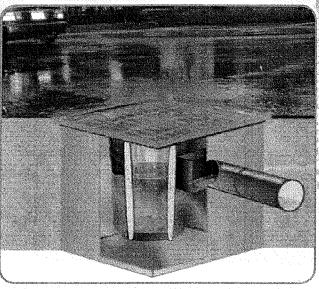
Vendor Literature for Catch Basin Insert and Downspout Filters with Adsorbent Media



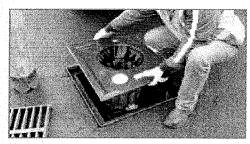


High Performance Catch Basin Filtration Inserts



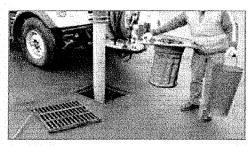


Now you can meet NPDES Phase II stormwater regulations and comply with the Clean Water Act with a proven stormwater BMP from CleanWay.



Simple Installation

- No tools needed
- Completed in a few minutes
- Retrofits existing catch basins available in any size



Easy Maintenance

- No tools needed
- Filters are quick and easy to remove and replace
- Prevents secondary spill

Storm Clean® II Benefits include:

- Proven stormwater BMP thousands installed throughout the U.S.
- Retrofits existing sites in minutes
- Various configurations to capture target pollutants
- Standard and custom sizes available

- Highly durable materials
- Hi-flow bypass system prevents scouring during high volume storm events
- Great for post construction sediment and metals control
- Unique testing port

Simple Durable

Effective

Proven

CleanWay offers basic, advanced and maximum pollutant removal options to address the specific needs of your site. You can also add additional pollutant removal performance any time to enhance treatment, by adding 2nd and or 3rd stage filtration.

BASIC

- Inexpensive solution for construction sites
- Easy to access and clean for trash and debris removal
- Very high capture capacity for suspended solids

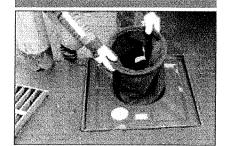
ADVANCED

- Helps meet benchmarks for stormwater discharge permit holders
- Prevents surface pollutants from entering the drinking water supply for UIC pretreatment
- Adsorbs and prevents leaching for oil and other hydrocarbons
- Measurably reduces levels of heavy metals

MAXIMUM

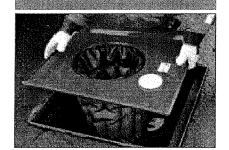
- Includes Basic and Advanced benefits
- Safely captures and contains various types of pollutants
- Captures site-specific pollutants
- Customized 3rd stage selective pollutant removal; can be altered in the field when conditions change

Ist stage filtration



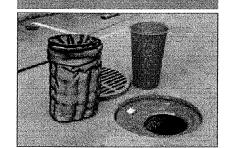
Rigid, removable strainer with non woven fabric filter

2nd stage filtration



Includes rigid strainer and adsorption filter

3rd Stage filtration



Includes rigid strainer, adsorption filter and specially blended, site-specific media

METALS REMOVAL MEDIA

For highly effective removal of metals, CleanWay Metals Removal Media Blend efficiently removes heavy metals through ion adsorption and filtration processes. This special media blend can be applied in filtration devices to replace existing media or used in addition to conventional media to capture high levels of dissolved metals and reduce insoluble components.

General Specifications

Primary filtration	
Strainer solids total	1.0 cu ft
Strainer total surface areas	4.8 sq ft
Strainer sieve size	1/8 inch
Strainer flow rate	>100 gpm

Secondary filtration
Adsorption media volume 1.5 cu ft
Filter surface areas 6.4 ft
Filtration design flow rate 40 gpm
Filtration maximum flow rate 80 gpm

Stormwater Filtration Products

CleanWay® provides a variety of stormwater filtration products that are highly effective at capturing and removing pollutants from stormwater runoff. They can be used in catch basins for direct capture at the source, as well as pretreatment for Underground Injection Controls (UIC), as secondary devices in treatment trains for protection of downstream devices such as swales, detention/retention ponds and infiltration trenches.

Catch Basin Filtration Inserts

CleanWay Storm Clean® catch basin filtration inserts are designed for retrofits or new installations. We offer several standard sizes and configurations to fit in a wide range of existing vaults and structures. We also design inserts for new sites customized to your specifications:

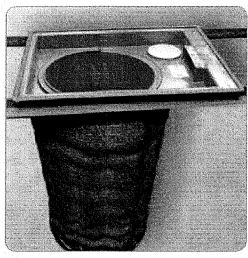
- Square Catch Basins
- Rectangular Catch Basins
- Round Catch Basins

Wall Mount Filtration

Storm Clean wall mount systems work best in large basins or manholes with 12" - 20" outlets deep in the vault. We also offer custom wall mount designs.

Downspout Filtration

Downspout filtration efficiently captures pollutants common to buildings with metal roofs or rooftop equipment. They offer a cost effective, unobtrusive solution in a small footprint.



Catch Basin Filtration Insert



Downspout Filtration

Request a Quote

CleanWay offers a cost effective solution for stormwater treatment. Contact us today for a quote on your project.

Call 800.723.1373 or email us at technical@cleanwayusa.com

Contact Us: CleanWay PO Box 30087 Portland, OR 97294



Tel 800.723.1373 503.280.5102

Fax 503.288.3658

www.cleanwayusa.com technical@cleanwayusa.com CleanWay Environmental Partners, Inc.

PO Box 30087 10620 NE Marx Street Portland, Oregon 97294 Toll free 800-723-1373 Tel 503-280-5102 Fax 503-288-3658





MetalZorbTM Order of Affinity

The order of affinity of the polymer for metals is influenced by solution parameters such as pH, temperature, and total ionic content. The following affinity sequence for several representative ions is generally expected.

Au ⁺⁺⁺	Gold	
UO ₄ -2	Uranium	
Cd ⁺⁺	Cadmium	
Hg ⁺⁺	Mercury	
Au(CN) ⁻²	Gold	
Cu ⁺⁺	Copper	
Pb ⁺⁺	Lead	
VO ₄ -3	Vanadium	
MoO_4^{-2}	Molybdenum	
Zn ⁺⁺	Zinc	
Cr*++	Chromium	
CrO ₄ -2	Chromium	
Ni ⁺⁺	Nickel	
	Selenium	
AsO ₄ -3	Arsenic	
Co⁺⁺	Cobalt	
Mn ⁺⁺	Manganese	
Fe ⁺⁺⁺	Iron	
	Silver	
Al ⁺⁺⁺	Aluminum	
Mg ⁺⁺	Magnesium	
K ⁺	Potassium	

The high selectivity for heavy metals, and the low selectivity for alkali and alkaline earth metals (Na+, K+, Mg++, and Ca++), is especially useful for the treatment of contaminated natural waters which may contain high concentrations of these innocuous chemical species. These monovalent and divalent cations do not interfere with or compete with absorption of heavy metals, therefore allowing for maximum removal of heavy metals from contaminated waters.

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CleanWay Environmental Partners, Inc.

PO Box 30087 10620 NE Marx Street Portland, Oregon 97294 Toll free 800-723-1373 Tel 503-280-5102 Fax 503-288-3658





MetalZorbTM Treated Sponge Product Capacity Calculator

 $\frac{704}{(\text{gpm})x(\text{ppm})}$ = HM and $\frac{1050}{(\text{gpm})x(\text{ppm})}$ = HMTU

Where:

- HM represents the expected running time (in hours) to saturate one cubic foot of Type M Sponge with absorbed heavy metals.
- HMTU represents the expected running time (in hours) to saturate one cubic foot of Type M-TU Sponge with absorbed heavy metals.
- "gpm" represents continuous flow rate (gal/minute) running through one cubic foot of Sponge product.
- "ppm" represents the amount (in parts/million) of heavy metals being absorbed continuously.

Notes:

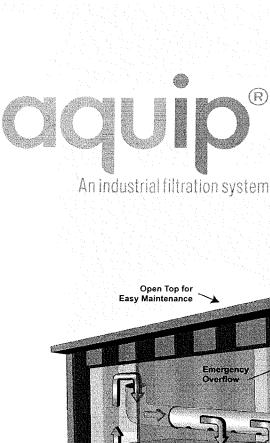
Actual running time may be somewhat higher or lower than formula-predicted values, as the total amount of heavy metals absorbed by the Treated Sponge Product is affected by factors such as the nature of the metals absorbed and the pH. Higher pH levels generally favor great absorption.

As the bed of Sponge product approaches its saturation point, its efficiency of metal removal will be diminished. The remove efficiency could be maintained by slowing the flow rate through the sponge or using a separate downstream bed of Sponge which can be subsequently be switched to become the upstream bed.

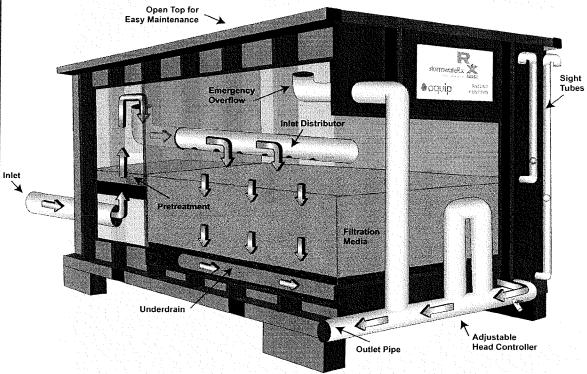
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Stormwater Filtration Products cleanwayusa.com

Vendor Literature for Adsorptive Media Filtration System







(R)

Aquip[®] is an innovative enhanced media filtration system for industrial stormwater applications. This stormwater treatment BMP is a highly efficient system that provides the treatment needed to meet stormwater quality standards.

As a passive adsorptive filtration technology, Aquip is available in three performance levels, each specifically designed for the reduction of stormwater pollutants such as oils, suspended solids, turbidity, heavy metals (including dissolved metals), organics, and nutrients.

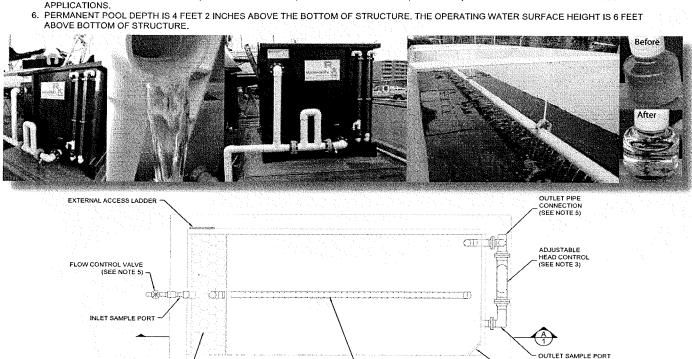
Contact StormwateRx to find out how Aquip can help you meet your stormwater quality requirements.



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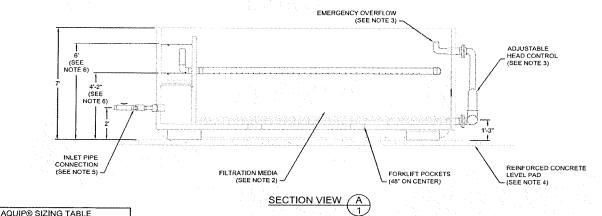
GENERAL NOTES

- 1. AQUIP® FILTRATION SYSTEM BY STORMWATERX LLC PORTLAND, OREGON 800.680.3543 (PATENT PENDING).
- 2. PRETREATMENT AND FILTER MEDIA COMBINATION DEPENDENT ON POLLUTANT REMOVAL REQUIREMENTS. MODELS: SBE: BUFFERING & INERT/SORPTIVE MEDIA, SXI:SETTLING PRETREATMENT & INERT MEDIA, SOB: COALESCING & INERT/SORPTIVE MEDIA, SCI: COALESCING & INERT MEDIA.
- 3. INTERNAL APPURTENANCES BY STORMWATERX INCLUDE INLET DISTRIBUTOR, UNDERDRAIN SYSTEM, EMERGENCY OVERFLOW AND ADJUSTABLE HEAD CONTROL.
- 4. REINFORCED CONCRETE LEVEL PAD REQUIRED, MINIMUM DIMENSIONS & OPERATING WEIGHT PROVIDED ON SITE SPECIFIC DETAIL.
- 5. INLET AND OUTLET PIPING CONNECTIONS TO BE SPECIFIED BY THE ENGINEER AND PROVIDED BY OTHERS. CENTER INLET STANDARD.
 OPTIONAL LEFT OR RIGHT OUTLET (LEFT OUTLET SHOWN). FLOW CONTROL VALVE (BY OTHERS) RECOMMENDED FOR PUMPED FLOW APPLICATIONS.





INLET DISTRIBUTOR (SEE NOTE 3)



AQUIPE SIZING TABLE		
MODEL	TREATMENT FLOW RANGE (GPM)	FOOTPRINT (FT X FT)
10\$	5-15	2 X 6
258	10-40	4 X 8
50S	25-75	6 X 11
80S	40-120	6 X 16
1105	60-160	8 X 17
170\$	75-250	8 X 25
2105	105-310	8 X 32

PRETREATMENT MEDIA (SEE NOTE 2)



INTERNAL/EXTERNAL ACCESS LADDER